

# The Mining Journal,

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2529.—Vol. LIV.

LONDON, SATURDAY, FEBRUARY 9, 1884.

WITH SUPPLEMENT. PRICE SIXPENCE BY POST, £1 4s. PER ANNUM

**MR. JAMES H. CROFTS, STOCK AND SHARE DEALER,**  
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.  
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

Business negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTRAL.

TELEPHONE NUMBER 1003.

**SPECIAL DEALINGS** in the following, or part:—  
50 Asia Minor. 100 Guinea Coast Gold. 25 Panulicillo.  
50 Akankoo, fully paid. 10 Great Laxey. 80 Prince of Wales.  
50 ditto, 17s. 6d. paid. 20 Gunnislake (Clitters). 50 Pestana.  
100 Almad. 500 Hawkins Hill. 20 Rio Tinto.  
25 Bedford United. 50 Hingston Down. 50 Ruby.  
50 Bratsberg. 200 Hoover Hill. 25 Rhodes Reef.  
25 Bwch United. 100 Home Mines Trust. 25 Richmond.  
40 Cankim Bamoo. 50 Honey & Trelawny. 20 Roman Gravel.  
50 Carn Camborne. 200 Indian Consolidated. 20 South Caradon.  
50 Callao Bis. 100 Indian Glenrock. 10 South Condurrow.  
50 Chile Gold. 100 Javali. 50 South Darren.  
100 Colombian Hydraulic. 100 Kapanga. 100 South East Wynad.  
100 Consolidated. 50 Killifreth. 50 South Devon United.  
50 California. 50 La Plata (New). 300 Sortridge (offer wtd.).  
50 Colorado. 50 Last Chance. 30 South Penstruthal.  
30 Canada Copper. 50 Leadhills. 50 Tambracherry.  
50 Chontales. 50 Lisbon-Berlyn. 200 Tanker. Gt. Consols.  
25 Cor. So. Austr. Cop. 50 Marke Valley. 30 ditto B.  
250 Denver. 50 Michipicoten. 100 Tresavean.  
50 Devala Moyar. 10 Mona. 100 Mounts Bay. 25 Trevaunance.  
20 Devon Consols. 100 Mounts Bay. 25 Trevaunance.  
150 Devon Friendship. 150 Mysore Gold. 50 United Mexican.  
50 Devon United. 100 New Caradon. 50 Victoria Gold.  
10 Dolcoath. 50 New Callao. 15 Van.  
200 Don Pedro. 50 New Emma. 10 Wheel Bassett.  
50 Drakewalla. 25 New Quebrada. 25 West Callao.  
50 Duchy Peru. 50 North Blue Hills. 25 West Phoenix.  
50 East Blue Hills. 20 New Kitty. 200 West Caradon.  
50 Eberhardt. 250 Nouveau Monde. 50 West Crebor.  
50 East Caradon. 20 North Penstruthal. 25 West Polbrean.  
80 East Craven Moor. 25 New West Caradon. 10 West Kitty.  
50 East Lovell. 100 Old Shepherds. 50 Wheel Poldice.  
100 East Wheel Rose. 100 Organos. 50 Wheel Coates.  
50 Ecton. 75 Orita. 25 Wheel Crebor.  
50 Flagstaff. 25 Polroas. 75 Wheel Jane.  
50 Frongoch. 25 Penhall. 55 Wheel Kitty.  
50 Frontino. 100 Potosi. 50 Wheel Silver & Lan-  
50 Goginan. 50 Port Phillip. tegion.  
50 Gold Coast. 150 Parys Copper. 250 Wynad Silverance.  
70 Grogwinlon. 35 Phoenix United.

\*. SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

\*. SPECIAL BUSINESS AT CLOSE PRICES in all Market TIN, COPPER and LEAD SHARES.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**RAILWAYS—SPECIAL BUSINESS.**—Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**FOREIGN BONDS—SPECIAL BUSINESS.**—Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**AMERICAN AND CANADIAN STOCKS AND SHARES—SPECIAL BUSINESS.**

Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

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\*. SHARES in the ABOVE SOLD FOR FORWARD DELIVERY ONE TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

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TREVAUNANCE, HOME MINES TRUST, DUCHY PERU.

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JAMES H. CROFTS, 1, FINCH LANE, LONDON.

ESTABLISHED 1842.

**MR. W. H. BUMPUS, STOCK AND SHARE BROKER,**

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A List of Investments free on application.

Mr. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

50 Asia Minor. 5 East Pool. 60 Organos.  
50 Almad. 150 Eberhardt. 100 Orita.  
50 Birdseye Creek. 20 East Lovell. 100 Old Shepherds.  
50 Bratsberg. 50 Ecton. 100 Panulicillo.  
25 Bedford United. 50 Frongoch. 100 Pen-yr-Osadd.  
20 Carn Camborne. 50 Frontino. 200 Potosi.  
20 Carn Brea. 30 Great Holway. 10 Roman Gravel.  
20 Chontales. 100 Home Mines Trust. 70 Ruby.  
100 Colombian. 150 Indian Consolidated. 25 Richmond.  
130 Chile Gold. 25 Killifreth. 100 South Kitty.  
40 Colorado. 20 Leadhills. 40 South Devon.  
100 California Gold. 120 La Plata. 50 Trevaunance.  
15 Coplao. 100 Lisbon-Berlyn. 25 Tolima B.  
100 Callao Bis. 70 Montana. 10 United Mexican.  
150 Devon Friendship. 100 Mounts Bay. 20 Wheat Grenville.  
30 Drakewalla. 100 Nouveau Monde. 10 West Kitty.  
20 Devon Consols. 50 New Callao. 15 Wheel Bassett.  
50 Duchy Peru. 50 N. Trumpet Consols. 50 Wheel Peavor.  
100 East Wheel Rose. 200 Nouveau Monde.

N.B.—Prices of the above on application, or offers may be made. Several lots of shares in this list are for sale under market quotations.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

Mr. BUMPUS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.

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ESTABLISHED 1867.

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BRITISH AND FOREIGN MONTHLY MINING NEWS

—STOCK AND SHARE INVESTMENT NOTES—MINES,

MINERALS, AND METAL MARKETS—SHARE LIST.

No. 861, Vol. XVII., for FEBRUARY month, will shortly be ready, and will be sent to customers on application.

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The Title Page and Index to our Eighteenth Volume are now ready, and can be obtained on application.

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40 Bratsberg Copper. 100 Mounts Bay. 100 South Kitty Tin.  
100 Callao Bis Gold. 50 New West Caradon. 20 South Darren Silver-  
30 Colombian Hydraulic. Copper. Lead.  
50 Carn Camborne Tin & 20 New Kitty Tin. 10 South Caradon Copper  
Copper. 50 New Caradon Copper. 10 Trevaunance.  
100 Chontales Gold. 150 Nouveau Monde Gold. 180 Tankerville Gt. Con.  
50 Corporation of South. 75 Trevaunance Copper &  
Australia Copper. 80 Old Shepherds. Tin.  
15 Devon Friendship. 50 Organos. 10 Tolima A.  
2 Dolcoath Tin. 40 Orita Gold. 50 Victoria Gold.  
50 Duchy Peru Silver- 50 Prince of Wales. 200 Western Andes.  
lead. 100 Potosi Gold. 200 West Callao Gold.  
40 East Rose Lead. 200 Port Phillip Gold. 50 West Caradon Copper  
100 East Blue Hills Tin. 50 Parys Copper. 50 West Polbrean Tin.  
50 Gold Coast. 15 Richmond Silver. 50 West Gonamena Cop.  
75 Home Mines Trust. 10 Roman Gravel Lead. 10 West Kitty Tin.  
50 La Plata Lead. 50 Ruby. 100 Wheel Jane Tin.  
20 Leadhills. 200 Sortridge Copper and 100 Wheel Crebor Copper  
Tin. 50 West Crebor Copper.

TEN PER CENT. DEPOSIT.—Many of the above shares can be sold for settlement by arrangement at the middle or end of March on payment of 10 per cent. deposit. Shares not found in the above list may be purchased on application.

MR. ALFRED E. COOKE is a BUYER and SELLER of all Shares currently dealt in at CLOSEST MARKET PRICE FREE OF COMMISSION.

IMPORTANT.—In order to obtain shares at present quotations purchasers are strongly advised to send orders by telegraph (when possible) a PRICE LIST of MINES SHARES and the LEADING RAILWAY and FOREIGN STOCKS is issued every FRIDAY. A REPORT on the STOCK MARKETS and a GENERAL PRICE LIST is issued every SATURDAY. Either or both will be forwarded to clients on application.

ALFRED E. COOKE, 9, OLD BROAD STREET, LONDON.

(Opposite the Stock Exchange, with which the office is in DIRECT TELEGRAPHIC COMMUNICATION.)

TELEPHONE NUMBER, 1288.

**MR. JAMES STOCKER, STOCKBROKER,**

2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

Has special business in the following for cash or settlement by arrangement:—

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Bedford United. East Rose. Prince of Wales.  
Birdseye. Frontino. Potosi.  
Bratsberg. Great Laxey. Richmond.  
California. Home Mines. South Caradon.  
Callao Bis. Kapanga. South Darren.  
Carn Camborne. Killifreth. Trevaunance.  
Chile Gold. Kohinoor B. Trevaunance.  
Chontales. La Plata. Transvaal Gold.  
Clitters. Last Chance. Tolima A.  
Colombian. Leadhills. United Mexican.  
Colorado. Lisbon-Berlyn. Van.  
Cor. So. Austr. Cop. Mounts Bay. Victoria Gold.  
Devon Friendship. New Emma. West Callao.  
Devon Consols. New Kitty. West Crebor.  
Denver. New West Caradon. West Kitty.  
Duchy Peru. Nouveau Monde. West Polbrean.  
Ecton. Old Shepherds. Wheel Crebor.  
Eberhardt. Orita. York Preference.

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BANKERS: LONDON AND WESTMINSTER, Lothbury, E.C.

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Mr. REYNOLDS refers to his remarks on page 154.

**Messrs. H. HALFORD AND CO.,**

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SELLERS are requested to communicate with the above.

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SPECIAL BUSINESS in the following:—

70 Akankoo. 50 Gold Coast. 60 Parys Copper.  
100 Bratsberg. 60 Guinea Gold. 90 Prince of Wales.  
60 California Gold. 80 Home Mines Trust. 40 South Caradon.  
70 Chile Gold. 20 Linars. 20 Tolima A.  
200 Chontales. 20 Montana. 80 Victoria Gold.  
80 East Wheel Rose. 100 Old Shepherds. 60 Wheel Crebor.

Fortnightly accounts opened in Home Railways, Foreign Bonds, American and Canadian Railways, on receipt of the usual cover.

Devon Consols, Bratsberg, and Wheel Crebor continue in demand.

A very importance advance has taken place in Old Shepherds, East Wheel Rose, and Home Mines Trust. Shares bought and sold at close prices.

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**MR. J. GRANT MACLEAN,**

SHAREBROKER AND IRONBROKER, STIRLING, N.B.,

Refers to his Share Market Report on page 173 of to-day's Journal.

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Those who wish to buy or sell mining shares should consult Mr. JAMES. Mr. J. devotes his entire attention to home and foreign mines, and places his special information at the disposal of his clients. That mining offers undoubted advantages for quick returns no one can deny. Look at the enormous sums of money paid in dividends by home and foreign mines. A large number of wealthy families owe their present proud positions to adventuring in LEGITIMATE MINES. With a better price for metals many of the smaller priced shares would immediately advance some hundreds per cent. Mines inspected and reported upon by thoroughly competent agents.

There are many mines worth attention, as proceedings of recent shareholders' meetings prove beyond doubt. During the last 40 years there has no such opportunity presented itself as the present for investment in British mines. Metals are certain to advance. In well-informed circles no doubt is entertained on this point. Buyers must not further delay orders.

See Selected List published by S. JAMES, 14, Angel-court, London, E.C.

SPECIAL BUSINESS in the following or part:—

30 Bedford United. 50 North Penstruthal. 50 Bratsberg.  
25 Blue Hills. 100 Old Shepherds. 50 California Gold.  
25 Carn Camborne. 20 Phoenix United. 100 Canadian Copper.  
10 Carn Brea. 25 Penhall. 50 Callao Bis.  
10 Cook's Kitchen. 50 Prince of Wales. 50 Chile.  
50 Colliacombe Consols. 50 Parys Copper. 45 Chontales.  
100 Cathedral. 20 South Caradon. 100 Colombian Hydraulic  
100 D'Esby Mountain. 10 South Condurrow. 50 Co. So. Austr. Cop.  
15 Devon Consols. 25 South Darren. 20 Don Pedro.  
100 Devon Friendship. 25 South Devon United. 40 Eberhardt.  
50 Devon United. 10 South Frances. 30 Flagstaff District.  
50 Drakewalla. 10 South Phoenix, 10s. 100 Frontino.  
5 Dolcoath. paid. 100 Gold Coast.  
50 East Blue Hills. 50 Tamar. 50 Hoover Hill.  
100 East Botallack. 10 Tincroft. 100 Indian Consolidated.  
50 East Caradon. 100 Trevaunance. 100 Indian Glenrock.  
50 East Wheel Rose. 150 Tanker. Gt. Consols. 50 Kohinoor B.  
40 Frongoch. 5 Trevaunance. 100 Kapanga.  
100 Goginan. 10 West Bassett. 100 La Plata New Shares.  
10 Great Laxey. 100 West Caradon. 0 New Emma.  
20 Gunnislake Clitters. 50 West Crebor. 40 Nouveau Monde.  
20 Great Holway. 50 W. Devon Gt. Consols. 20 Organos.  
50 Grogwinlon. 110 West Gonamena. 80 Orita.  
100 Home Mines Trust. 10 West Kitty. 100 Potosi.  
20 Killifreth. 40 West Poldice. 15 Port Phillip.  
25 Kit Hill Gt. Consols. 50 Wheel Bassett. 500 Pierrefitte Ord.  
10 Kitty St. Agnes. 20 Wheel Coates. 50 Ruby & Dunderberg.  
15 Marke Valley. 10 Wheel Crebor. 50 Tocopilla.  
75 Mounts Bay Consols. 5 Wheel Peavor. 25 Tambracherry.  
10 New Kitty. 100 Wheel Jane. 100 Victoria Gold.  
40 North Busy. 45 Asia Minor. 50 West Callao.  
100 New Caradon. 21 Almad. & Tiritio. 20 Wynad Persever.  
50 Birdseye Creek.

\*. S. JAMES is a Buyer or Seller of any of the above Shares.

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# OME REMARKS ON WINDING APPLIANCES AND ROUND WIRE ROPES.—No. II.

BY R. J. FRECHVILLE, ASSOC. MEM. INST. C.E.,  
H.M. INSPECTOR OF MINES FOR CORNWALL, DEVON, ETC.

Since any extra strain on a rope leaves it weaker than it was before, on no account should a rope used for raising men be ever worked above a fair working load. In drawing mineral in this county the custom, as you are aware, is to let the skip down on a gate put across the shaft. Probably the greatest strain the rope has to bear is when the full skip is lifted. Experiments made at some of the coal mines prove that when the full cage is lifted from the bottom, about double the ordinary strain due to the load is produced. This arises from the inertia of the mass to be moved. In the case of a skip resting on a gate the more slack chain there is the greater will be the strain on the rope at starting. In winding men there should be no resting place for the cage, the engine should be started gently, driven regularly, and with a speed of only about two-thirds of what is otherwise usual. The rope also should be examined every 24 hours, and this should be done by winding it slowly through the operator's hands, if he does not happen to see the broken wires in all probability he will feel them. Occasionally the rope should be thoroughly cleaned, and its condition more minutely ascertained. When broken wires are found the longest may be tucked underneath and the others cut off to prevent their catching and doing further mischief. The most careful watch must be kept on the portion of the rope where they occur.

A new rope should be tested with several days winding before men's lives are trusted to it. It is indispensable for the preservation of steel wire ropes that they should be greased regularly. The grease used should be perfectly free from acid, and soft enough to work into the strands right through to the hemp core. It must not be of such a nature as to harden, for in that condition it allows rust to form between it and the wire, so that a rope that appears to be well greased may be corroded to a sensible depth. A mixture of Stockholm or Archangel tar, a vegetable oil, and a little lime boiled together is often recommended. In this county the tar is mixed with tallow. These mixtures, however, form too stiff a grease, tend to hide defects, and render the thorough examination of the rope difficult. A mixture containing gas tar is still more objectionable. Of all the lubricants for wire rope that have come under my observation, the best is a mineral oil in use at Wheal Sisters. It is of the right consistency and keeps the ropes in splendid condition. Some of the heavy mineral oils, such, for instance, as the Russian, their specific gravity being higher than the American, possess sufficient viscosity to be used as a lubricant for wire ropes, and will, if tried, owing to their freedom from acid and power of resisting decomposition be found to give satisfactory results. At the Wearmouth Colliery they have a patented apparatus consisting of a pair of wire brushes for cleaning the ropes, and a pair of strong hair brushes fed with lubricant from feeders above for oiling them. Both sets of brushes revolve, being actuated by the travelling rope. It is claimed that this arrangement lubricates very thoroughly, and effects a great saving in oil and labour.

When a rope is used for winding men the shackle should be cut off regularly every two or three months, the rope thoroughly examined, and the shackle reset. This is a point of vital importance for wire ropes. In order to arrive at economical results with wire ropes accurate accounts should be kept of their working. By this means the kind most suitable may be ascertained, and a considerable saving effected by using an article best adapted for the purpose. However well a rope may seem to be lasting it should always be suspected as soon as its duration approaches the average that corresponds with the conditions under which it is working; it should at any rate cease to be used where human life depends on it.

Owing to trade competition there is great danger of inferior metal being used in the manufacture of ropes, so that when a new one is required only the best makers should be applied to, and they should be furnished with full information as to the conditions under which it has to work. There can be no greater and false economy than choosing a cheap rope. When a rope is for the purpose of winding men it would be advisable to have a sample piece of it (say a length of 10 or 12 ft.) tested before use, in order to see that the quality of the metal and the breaking strain are as represented.

The connections usual in this district between the rope and cage consist of the shackle or socket, screw-heater, double chain runner, swivel and coupling chains. The shaft being perpendicular at East Pool the runner and swivel are dispensed with.

Now, as to the shackles or sockets we have three different types—1, the shackle with rivets as used at East Pool; 2, the conical socket as used at South Frances; and 3, the double pin socket as used at Wheal Sisters.

At East Pool, to put on the shackle the rope is first lashed round with copper wire about 8 in. from the end, the strands are next untwisted, and the wires turned back singly; some are cut off at different lengths, so as to make the requisite taper; the whole is then bound round with copper wire. The shackle, being heated to redness, is, after the tapering end of the rope has been inserted, hammered down to fit it snug. A coupling is then screwed on, and the shackle brought as tight as possible on the rope. Finally, a steel punch is driven through to make place for the rivets, which are put in and fastened in the same way as boiler rivets. The rope end is manipulated at both South Frances and Wheal Sisters in very much the same way as described above, being made of a conical shape like the inside of the socket. It is then pulled back, and a round centre pin of steel driven up in the middle to wedge it. With the socket used at Wheal Sisters, each chain of the runner passes over a separate heater pin; this is certainly safer. The comparative merits of these attachments have not been ascertained by testing; it is very desirable, however, that this should be done. In many of the coal mines they use a shackle (capel) with hoops and rivets, which is fastened to the rope as follows:—The end is untwisted for about 6 in.; it is then doubled to suit the length of the capel, the loose end twined round the main rope, and the whole bound with hemp twine soaked in tar; rivets with countersunk heads are put through both ropes and the capel; the hoops are next put on and driven home tight. This, though doubtless a very strong connection, is not suitable for passing over pulleys and rolls, as our shackles are required to do.

The screw-heater and swivel, with their pins, should be made of 1½ to 1¾ in., the runner chains of ¾ to 1 in., and the coupling chains of ¾ to 1 in. best wrought-iron bar. The pins should be secured in their places by jam nuts. There should be five coupling chains—one at each corner of the cage and one attached to the centre—the latter carries no weight, but hangs a little slack, and is provided, in case a corner one should break, to prevent the cage tipping to one side and jamming itself in the shaft. The links should be made as short as is consistent with easy play, and those at the extremities a little larger and stronger than the rest. Chains require frequent and careful examination, as the links may wear into each other without being detected if not well looked after; also owing to the shocks, jerks, and alternations of temperature they are subjected to when in work, the iron undergoes a change in structure, and gradually becomes hard, crystalline, and liable to snap, as is seen in the case of railway wagon couplings, which often break short with a crystalline fracture, apparently having had very little wear.

So far as this district is concerned some of the principal details connected with our winding appliances, and more especially the precautions to be observed in the selection and treatment of wire ropes have now been briefly touched on. There still confronts us, however, this most important question. In those mines where the men ascend and descend by cages, what means should be adopted in order to avoid the consequences of the breakage of the winding rope? We are forcibly reminded of the terrible catastrophe that occurred in our midst last summer by the accident resulting in the death of 10 men, and caused by the breakage of the winding rope that has just taken place at the Garnant Colliery in Carmarthenshire. The rope—a round steel one 1½ in. in diameter—broke about 17 yards from the cage just as it began to descend.

An attempt has been made to deprive accidents of this nature of their serious character by the application of safety catches to the cage. About thirty years ago many different sorts were in-

vented, and for some time were in general use in the collieries, but now you seldom meet with them. It is said that they are liable to come into action when not wanted, especially with quick winding and during the descent of the cage, thus introducing an extra source of danger. It is possible, indeed, that this objection would not apply here, on account of the very slow rate of speed in winding; but, on the other hand, the varying underlie and different character of our shafts introduce fresh elements of difficulty.

Most of these catches depend on the action of a spring, which comes into play on the breakage of the rope, and forces against the guides either eccentric clutches, or levers with sharp points; the weight of the cage then causes the clutches to grip the guides, or in the case of the levers the sharp points to penetrate into the wood.

Although there are instances of life having been saved by some of these contrivances, there are also instances of their failing to act, as in the case of the rope breakage at the Duke Hardenburg Colliery (Westphalia), on Dec. 21, 1882, when 25 men lost their lives. The rope broke just as the cage, fitted with safety catches, reached the surface, but, unfortunately, these did not come into operation.

There appears to be a very general dislike to trust to the action of a spring in such a wet and dirty place as a shaft, and it is also thought that the use of catches would have a tendency to produce a

want of attention to the condition of the rope, and to encourage an attempt to unduly increase its working life.

Last year, at a meeting of the Royal Cornwall Polytechnic Society, and at our own exhibition of mining machinery, there were to be seen several models of safety-catches invented in this county. Although very ingeniously constructed, none of them have so far inspired sufficient confidence to be adopted at any of our mines. It may be, however, that amongst these appliances, or amongst those which have been used in the coal districts, there will be found one capable by some slight modification of being made into a safe and reliable apparatus.

All those amongst us possessing mechanical ability, and acquainted with the varying conditions under which such an appliance would have to work in our shafts, should consider it as a sacred duty to devote their attention to this subject, so that if possible our miners may be guarded against the extra risk they encounter in those mines where they are lowered to and raised from their daily work by cages.

Meantime, in order to prevent accidents of this class, we must pay the most minute attention to every detail of the winding appliance, especially to the selection, maintenance, and examination of the ropes.

This Property will command a practical monopoly of the Coa Trade of the Danube, Black Sea, and Constantinople  
Income from Contracts offered will amount to £30,000 per annum, equal to over 30 per cent. on the total Capital of the  
Company after payment of the Government royalty.  
A further offer has been received to take the whole production of Coal at a clear profit of 10s. per ton.

## The Iron Gate Coal and Chrome Company, Limited.

Incorporated under the Companies Acts, 1862 to 1880, whereby the liability of Shareholders is limited to the amount of their Shares.

CAPITAL £100,000, IN 100,000 SHARES OF £1 EACH,

Of which 20,000 are taken by the Vendor in part payment of the purchase-money, and the first issue of 50,000 are now offered for subscription, payable:—5s. per Share on Application, 5s. per Share on Allotment, and the balance, as and when required, in Calls of 5s. per Share, at intervals of not less than three months.

In the event of no Allotment being made, the amount payable on Application Shares will be returned in full

### DIRECTORS.

Sir GEORGE INNES, Bart., Richmond, Surrey.  
JAMES CROSTON, Esq., J.P., Manchester, and Upton Hall, Cheshire.  
Mr. Alderman JENKINS, Higher Broughton, Manchester.  
T. SAUNDERS, Esq., J.P., Holland Road, Kensington, W.  
Mr. Councillor HUGO SHAW, Manchester.  
THOMAS OLDHAM, Esq., Holmefield, Sale, Manchester.

SOLICITOR—J. H. BOARDMAN, Esq., 41, John Dalton Street, Manchester.

BANKERS—THE UNION BANK OF MANCHESTER AND BRANCHES.  
(Messrs. GLYN, MILLS, and CO., London Agents.)

AUDITORS—Messrs. JOHN ADAMSON, SON, and CO., Norfolk Street, Manchester.

SECRETARY (pro tem.)—Mr. F. W. DAWSON.

REGISTERED OFFICES—9, CORPORATION STREET, MANCHESTER.

### PROSPECTUS.

This company is formed for the purchase of concessions granted by the Crown of Hungary, of the mining rights in perpetuity over a district of about 25 square miles in extent, situate on the Danube at Tisovitz and Ribenthal, near the well-known city of Orsova, together with the freehold land at Tisovitz, and the works, houses, offices, and landing-stages erected thereon, and the plant and machinery appertaining thereto, and for working the extensive and valuable deposits of coal and chrome thereon.

The Crown concessions are subject to a Government fee of £2 per annum, and a royalty of 5 per cent. of the net profits on minerals sold and without dead rent, and carry with them the right to fell and use any required quantity of timber, which latter is heavy and abundant. Labour also is cheap and abundant, and there is ample water power for all purposes, and during all seasons.

COAL.—This property has been inspected and favourably reported upon by some of the most eminent authorities—namely, Prof. Hull, F.R.S., F.G.S., Director of the Government Geological Survey of Ireland, and previously Government Inspector of Mines in Lancashire, Prof. V. Ball, F.R.S., F.G.S., Director of the Government Geological Survey of India, and Commissioner at the Vienna Exhibition, 1873, Nelson Boyd, Esq., F.G.S., M.E., J. E. Wood, Esq., C.E., F.R.S., Luke Blackwell, Esq., M.E., and others, who state that the coal on this property resembles both in appearance and quality the South Wales steam coal, being peculiarly adapted for use in locomotives, and for steam navigation, a fact that is proved by analysis.

The coal seams are vertical, or nearly so, and crop out on the flanks of the hills, and can be worked by adits, without machinery, for raising or draining. Four of the seams are already proved, and opened out by adit levels. These seams vary in thickness from 4 ft. to 20 ft., and the quality is excellent. Another seam 48 ft. in thickness, is stated to have been discovered, and others are known to exist. It is computed that these seams contain over 100,000,000 tons of workable coal, free from gas or water.

In addition to the ordinary sources of demand for household purposes, railways, flour and other mills, gas, sugar, and glass manufactures, there are on the Danube 1500 steamers, which are in great measure supplied from depots of English coal at Galatz, Ibrail, Varna, and elsewhere.

Profs. Hull and Ball, in their report state from all they can learn, "there is no port on the Danube supplying coal direct from the mines below Tisovitz" (at which the company's wharf is situated) "and, in fact, there is no coal along or near the banks of the Danube below Tisovitz, points of much advantage to this property," and that "the demand for coal at Tisovitz will always exceed the supply."

These collieries, being the nearest cheap source of supply for vessels navigating, and towns upon the Lower Danube, Black Sea, and Constantinople, will have the whole trade open to them, and no English coal can possibly compete on account of freight and charges, which to Galatz amount to 15s. to 20s. per ton, whilst it is estimated the total cost to this company for coal delivered free on board will not be more than 5s. per ton. The selling price of steam coal at Galatz is stated to be about 30s. per ton, and for native coal further up the river 21s. to 33s. per ton. The supply from the collieries can easily be made equal to 2000 tons per week, and deliveries commenced forthwith.

Coal is sold for cash on delivery at the wharf, but the demand is such that it is frequently paid for considerably in advance of delivery.

The directors have already received an offer of contract for 20,000 tons of this coal per annum, for three years, with a clear profit to the company of 10s. per ton. A further offer has been received to take all the coal that can be delivered at the same rate of profit.

Prof. J. Emerson Reynolds, F.R.S., Royal Dublin Society, gave the following analysis of coal from this property:—Moisture, 0.51; volatile hydrocarbons, 14.32; fixed carbon, 75.86; sulphur, 0.18; ash, 9.13.

CHROME ORE.—The deposits of chrome ore on the property are prac-

tically inexhaustible, and of great richness. Mr. J. E. Wood, C.E. F.R.S., states that of the 19 sections into which this property is divided, 15 contain extensive veins of chrome ore, from 3 ft. to 84 ft. in width, and that in five of the sections the ore contains from 50 to 65 per cent. of oxide of chromium. The present value of ore containing 42 per cent. of oxide, in England, is about £7 per ton.

The chrome ore crops out on the surface, and can be worked in open quarry, and the simple process of hand-picking would suffice to ensure a large immediate delivery, very little capital being required, except for actual wages. The inspecting engineers concur in stating that the chrome ore can be delivered on the Danube, free on board at 5s. to 6s. per ton. A firm contract is already offered for 10,000 tons per annum, for three years, with a clear profit to the company of £2 per ton.

### ASSAY OF CHROMITE TAKEN FROM THIS PROPERTY.

2, Lombard-street, E.C.  
"I hereby certify that I have submitted a sample of chromite (chrome iron ore) handed to me to chemical analysis. I find it to contain 52 per cent. of sesquioxide of chromium. I may further state that should this mineral exist in the quantities represented, that this property is a most valuable one."

(Signed) J. MAC IVOR, Consulting Chemist and Mineralogist.  
Analysis of Herr LOUIS VON MAADIESPACH, Chief Assaying Department, Oravitz.

Chrome ironstone, 50 to 56, and from 29.6 to 46.23 chrome oxide; silver alloyed copper, 17½ per cent. copper; 62 to 260 ozs. of silver per ton; red ironstone, 57½ per cent. of raw iron.

The contracts before referred to show an assured revenue per annum, as follows:—From 20,000 tons of coal at 10s. per ton, profit, £10,000; from 10,000 tons of chrome, at 40s. per ton, profit, £20,000; total, £30,000.

But beyond this, the demand for coal on the Danube, and for chrome in England, America, and on the Continent being continuous and increasing, and the sources of supply of the latter being few, a ready sale at highly remunerative rates may be always relied upon for a much larger output.

In addition to the coal and chrome, there are on this property vast masses of spathic iron ore, brown hematite, and black band ironstone, and extensive ramifications of argentiferous copper and other minerals, which constitute it one of the most remarkable mining fields in Europe. These rights the directors propose to sell for the benefit of the company as way may open, and to confine their operations to the coal and chrome as sources of immediate revenue, free from risk, or anything of a speculative character, or involving large expenditure on plant.

The capital required for additions to plant is very trifling, consisting almost exclusively, as to coal, for wagons to run on the tramway from the adit levels to the wharf; and, as to chrome, for dressing machines, which will, it is estimated, be covered by an expenditure of about £2000.

The expenditure on plant will be strictly limited to the above-mentioned items, and no further expenditure on plant account will be incurred except out of profits.

The purchase money agreed to be paid for the estate and mineral rights is £60,000, to be paid or satisfied as follows, viz., £16,000 in cash, £20,000 in fully paid-up shares, and the balance in coal and chrome from the property. No promotion money has been or will be paid by the company, as all expenses of formation up to the first allotment will be paid by the vendor.

The only agreements entered into are one dated 23rd October, 1883, and made between Thomas Bryant of the one part, and F. G. Dawson of the other part, and one dated 1st December, 1883, and made between F. G. Dawson, of the one part, and Henry Peplow, as agent for and on behalf of the company of the other part.

Copies of the reports, memorandum, and Articles of Association, and of the agreements above-mentioned can be seen at the offices of the company's solicitor. Prospectuses and forms of application for shares may be obtained from the solicitor, auditors the bankers, and also at the offices of the company.



# The Ouro Preto Gold Mines of Brazil (Limited).

Incorporated under the Companies Acts, 1862 to 1880, whereby the liability of the Shareholders is limited to the amount of their Shares,

**CAPITAL £400,000, IN 80,000 SHARES OF £5 EACH.**

Of which 26,600 will be allotted to the Vendors, as hereinafter mentioned, and 53,400 are now offered to the Public. (Applications have already been made for upwards of 26,000 Shares), thus amply securing the working capital required.

Payable:—5s. on Application, 10s. on Allotment, and 15s. one month after Allotment. The balance in calls of not more than £1 per Share, and at intervals of not less than Six Months.

## DIRECTORS.

EDMUND A. PONTIFEX, Esq. (Chairman of the Cape Copper Mining Company, Limited), CHAIRMAN.

\*M. H. BELLOC, 78, Rue de Courcelles, Paris.

Sir CHARLES CLIFFORD, Hatherton Hall, Stafford.

\*M. ALEXANDRE ELLISSEN, 41, Boulevard Haussmann, Paris.

Le Marquis de FALETANS, Chateau de Faletans, Jura, France.

JOHN TAYLOR, Esq., 6, Queen Street Place, London, E.C.

\*RICHARD WARD, Esq., 21, Onslow Square, London, S.W.

\*Will join the Board after Allotment.

BANKERS—London: Messrs. SMITH, PAYNE, and SMITHS.—Paris: Messrs. BELLOC and Cie.

MERCANTILE AGENTS IN RIO DE JANEIRO—Messrs. P. S. NICHOLSON and CO.

SOLICITORS—Messrs. CAMPBELL, REEVES, and HOOPER, 17, Warwick Street, Regent Street, W.

BROKERS—Messrs. LAURIE, MILBANK, and CO., 22, Threadneedle Street, E.C.

MANAGERS—Messrs. JOHN TAYLOR and SONS.

SECRETARY—W. G. WILLIAMS, Esq.

OFFICES—6, QUEEN STREET PLACE, LONDON, E.C.

## PROSPECTUS.

This company is formed for the purpose of acquiring and working the extensive gold mining estates of Raposo, Espirito Santo, Borges, and Passagem, situated in the province of Minas-Geraes, Empire of Brazil, and comprising four important mines, three of which are in full working order, with large reserves of ore, and from which regular returns are now being made.

The right to work these properties was obtained by a few French and English capitalists, about three years ago, since which time the operations have been steadily carried on, and the great value of the mines definitely proved.

After the prosecution of the works for upwards of two years, Messrs. John Taylor and Sons were consulted, when they carefully considered the reports made by the different engineers who had visited the properties, and having obtained the confirmatory evidence of an agent of their own recommendation, arrived at the opinion that these mines were of very great value, and presented unusual prospects of success.

Acting under the advice of Messrs. John Taylor and Sons, the mining operations have since that time been continued with vigour, and considerable additions have been made to the machinery and appliances necessary for the development of the mines and the treatment of the ores raised.

The following statements as to the several mines are founded on the reports of Messrs. John Taylor and Sons, Dale, Henty, Mouchot, Partridge, and Wendeborn.

**RAPOSO.**

Is a property of great extent, being three miles long and two miles wide.

The vein is unusually powerful, being from 15 to 20 ft. wide.

The mine has been opened up by means of adit levels driven into the side of the hill, and the existence of several deposits of mineral, which are found to increase both in size and richness as depth is attained, making it appear evident that they will ultimately unite and form one continuous and very valuable body of ore.

The drive of a deeper adit level, to intersect the ore deposits about 200 feet below the present workings, has already been commenced.

A mill with 18 stamps is working at this mine, and it is proposed to increase the number as quickly as possible.

**ESPIRITO SANTO.**

This estate is also very extensive, being about four miles in length by three in width. It lies between Raposo and the Morro Velho mine of the St. John del Rey Company, and will be worked in conjunction with Raposo, thus greatly facilitating the exploration and reducing the expenses.

From the success which has up to the present time attended the development of the Raposo Mine it is estimated that an ample supply of ore will be obtained from these two mines alone to keep 200 heads of stamps in continuous work, and to afford an output of 150 ozs. of gold daily, which it is calculated would leave a profit of over £100,000 per annum.

**BORGES.**

This property, which is about two miles in length and one mile in width, is situated 10 miles to the east of Raposo, and contains three known gold-bearing

veins. Upon one of these certain exploratory works have been carried on, and although only to a limited extent yet with considerable success, and from the powerful nature of the vein and the richness of the ore brilliant results may be looked for almost immediately.

A mill with 16 heads of stamps is nearly ready, and will be put to work within a very short time upon ore, which an experiment upon 100 tons of rock has proved to be of an average richness of over 16 ozs. (about 1½ ozs.) of gold to the ton. Subsequent trials show that the ore becomes still richer as greater depth is attained.

**PASSAGEM.**

Is situated about five miles to the east of the city of Ouro Preto, the capital of the province of Minas-Geraes, the property covering an area of 2½ square miles.

The vein is very powerful in its character, being traceable for more than a mile at the surface, and being in some places as much as 40 ft. in width.

Recent experiments show that by far the larger proportion of gold at this mine exist in pyrites, which is exceptionally rich, and may be readily treated, either on the spot or in Europe, by the methods now in use.

An investigation made by Messrs. Johnson, Mathy, and Co. upon 6 cwts. of this ore shows it to contain 5·925 ozs. of gold per ton. The certificate of the Ecole des Mines, Paris, and of Messrs. P. Morin et fils aîné, assayers to the Bank of France, confirm this result; and a letter from Messrs. De Long and Cie., of Paris, states the value of the concentrated pyrites sent to them for assay to be 3407 frs. per 100 kilos, or £1362 per ton.

There is at present a mill of 12 stamps working at this mine, but the quantity of ore already raised and in sight calls for a large increase of the milling power without delay.

If the anticipations of the engineers who have examined this mine are even approximately verified the results to be obtained from it will be almost unprecedented.

**GENERAL REMARKS.**

Since the month of May last remittances of gold amounting to 167,402 frs. have been received in Paris, which result has practically been obtained by working only the 12 stamps at Passagem, as the Raposo mill has been but recently started.

With the 46 heads of stamps which are already constructed, all of which are expected to be in operation in a few weeks, a sufficient quantity of ore may be treated to admit of the payment of moderate dividends almost immediately, the amount of which will steadily increase in proportion as additional heads of stamps are brought into operation.

The expenses of working these mines are exceptionally light, and the circumstances attaching to them highly favourable. There is ample water-power available, and steam-power is not therefore required; labour is abundant and cheap, and the mines are situated in a healthy and fertile country, supplies of every kind are easily procured at very moderate prices, and the climate is excellent.

The railway is already opened to Queluz, a distance of only 30 miles from the City of Ouro Preto, and will shortly be continued to Sabara, passing through the Raposo property, where there will be a station.

Of the capital of the company a sum of £50,000 will be reserved for the working of the mines, which sum has been secured by the applications already made.

The vendors are the promoters of the company, and have fixed the price of the gold mining estates of Raposo, Espirito Santo, Borges, and Passagem, with mills, canals, machinery, plant, buildings, stores and supplies at £187,000 in cash, and 26,000 fully paid shares in the company, which includes the original amount paid for the properties and the outlay on the mines during the last three years, whereby their value has been enormously increased.

Attention is especially called to the fact that the fully paid-up shares taken by the vendors are only to receive dividends of the same amount per share as will be paid upon the shares subscribed for, although these latter be only partially called up and paid.

It should be clearly understood that this purchase includes four extensive estates, comprising over 8000 acres of land, much of which is well wooded, in opening up the mines on which large sums of money have been recently expended, together with valuable water rights and timber.

Each property is of sufficient magnitude to have justified the formation of a separate company, but the whole can be more advantageously dealt with under one management.

The services of Messrs. John Taylor and Sons, of No. 6, Queen-street-place, London, whose large experience as mining engineers and managers is well known, have been secured on behalf of the company, and they will undertake the general management and superintendence of its affairs. Their report upon the properties, together with extracts from the reports of the different engineers who have examined the mines, can be obtained at the company's office.

The only agreement entered into is dated the 29th day of January, 1884, between Hippolyte Belloc of the first part, Joseph Robey Partridge of the second part, and William Gunter Williams, as a trustee for and on behalf of the Ouro Preto Gold Mines of Brazil (Limited), of the third part.

The full report on the mines, together with specimens of the ores may be seen at the company's office.

Copies of the Articles of Association and of the said agreement may be seen at the office of the said solicitors.

Applications for shares on the form provided may be forwarded, together with a deposit of 5s. per share to the company's bankers, Messrs. Smith, Payne and Smiths, 1, Lombard-street, London, E.C., or to Messrs. Belloc and Cie., 78, Rue de Courcelles, Paris.

All expenses up to and including allotment will be borne by the vendors. Where no allotment is made the deposit will be returned in full, and where a less number of shares is allotted than applied for, the balance of the deposit money will be applied towards the amount due on allotment.

Prospectuses and forms of application may be had at the company's bankers and brokers or at the office of the company in London, or of the bankers in Paris.—January 31st, 1884.

## Meetings of Public Companies.

### POTOSI GOLD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the Cannon-street Hotel, on Monday,—Mr. E. L. J. RIDSDALE in the chair, to pass resolutions for the voluntary winding-up of the company, with a view to its reconstruction under the name of "The New Potosi Company (Limited)."

Mr. J. BRYCE WILKINSON (the secretary) read the notice calling the meeting.

The CHAIRMAN said that at the last meeting of this company, held about four months ago, at which he was unable to be present through ill-health, the state of affairs then at the mine, as represented by Mr. Kelly, the manager, and Mr. Fitzgerald, who was left in charge, was about as desperate as it was possible to conceive in the history of any mine. The directors had had a telegram sent to them to the effect that the lodes at Peru were poor throughout, and had pinched out entirely, and further suggesting that a sum of £2000, should be sent out each month to Mr. Kelly to sink the shaft deeper, and get through the pinch which was stated to exist. Under these depressing circumstances, especially after the flowery statement sent over by Mr. Fitzgerald before, one of the board, Mr. Scriven, volunteered his services to go out, and he did so; and he was followed by Mr. Provis and his brother, with instructions to examine everything and report fully to the board, and get at the truth, which it was difficult to get at before, and in order to press the mining developments further. Mr. Scriven stated that the mining was entirely neglected by Mr. Fitzgerald as manager, and only about 8 ft. had been sunk in the air-shaft since Mr. Delamas retired there was for sending home telegrams to the effect that the lodes had pinched out. All the efforts had been centred upon the mill and the tramway. Mr. Provis and Mr. Scriven resumed pumping, and they would see from the plan on the table that a distance of 1400 ft. upon the Peru lode had been proved by three shafts. For 1400 ft. along the length of the lode that lode had been proved, and the width of the lode varied from 3 to 4 ft. in places. At No. 3 shaft Mr. Scriven stated that he had taken over 20 tons of rock averaging 4½ ozs. to the ton, and he need not tell them that that would give them a very magnificent profit indeed. That lode was reported to be entirely pinched out. In the air shaft the lode was not of such a promising character; there was there about 1 oz. to the ton, but Mr. Provis stated that it was improving rapidly in width. The Atwood shaft was found to have much water in it, but this had been pumped out, and the lode was kindly and of a promising appearance. Although the company was financially and practically bankrupt here, as they had no money and had failed to pay, the result was in consequence of the late debenture issue not being taken up properly, yet they had this gratifying reflection—that the backbone of the property, if they believed those gentlemen (and he implicitly believed them), was a very good one, although it pleased those gentlemen to state that the lode was worthless. The shareholders had to consider how to replenish the exhausted exchequer of the company. He would divide the resolution into two parts. He would first take the one, which admitted of no discussion, relating to the insolvency of the company, and he must state simply and plainly that the company was unable to pay its liabilities. When they had passed the first resolution, for winding up, he would then place before them a scheme which the shareholders could discuss as much as possible. In the meantime, to save the time of the meeting, he would move the first resolution.—"It having been proved to the satisfaction of this meeting that the company cannot by reason of its liabilities continue its business, and that it is advisable to wind-up the same, and, accordingly, that the company be wound-up voluntarily."

Mr. BOWEN seconded the motion.

Mr. BOWEN said that before the resolution was put the shareholders should understand the position in which they were. He contended that the company had been brought into this mess through mismanagement. The directors removed the Chili mill to the Peru lode rather than erect a mill which could have been purchased for a much less sum. Now, the shareholders must accept whatever conditions the directors choose to impose upon them, for when the resolution was once passed it was no use "kicking against the pricks." It seemed to him that the proposed terms were most onerous, for the shareholders would be

rely in the hands of the debenture-holders.

The CHAIRMAN: We are practically as now. Allow us to die comfortably and decently, and then we can resuscitate and discuss this scheme.

The resolution was put and carried, only five hands being held up against it in a crowded meeting.

The CHAIRMAN said that as they had decided to put themselves to death they must appoint a liquidator. In order to save expense the directors had arranged to recommend a liquidator who had been nominated by the solicitor—Mr. Woodford—whose fees would only be 200 guineas. The liquidation of the company would take place at the company's office, and it was thought better not to have it done by the secretary, but by a person unconnected with the company. He proposed that Mr. G. B. Woodford be re-elected liquidator of the company.

Mr. MATTHEWS seconded the motion, which was put and carried.

The CHAIRMAN said he would now come to the scheme of reconstruction. Of course, when a reconstruction took place somebody must give up something.

In this instance, the directors had endeavoured to propound a scheme which should equitably meet the circumstances of the case. The first people they had to go and see were the debenture-holders, who were the people who at the time of the company's failure had advanced the money and constructed the mill. If it had not been for the money so advanced nine months ago, not only would there not have been any mill in existence to-day, but there practically would be no mine, for the mine would be in liquidation. Therefore, the directors went to the debenture-holders, and said—"You are masters of the field, and we have elaborated a scheme which we think, as far as our judgment goes, meets all the circumstances of the case; you hold a very large number of shares, together with debentures, will you fall into this scheme?" The debenture-holders who are in the scheme hold about 183,000 of shares, and the directors had to say to them—"What do you think of the scheme?" The subject was discussed with them, and they agreed almost unanimously to the directors' scheme. On the strength of that the directors came before the shareholders to-day. In settling with the debenture-holders the directors were obliged to offer them something for nothing; if the debenture holders had gone into possession, as they could have done if they had not been settled with, the consequences would have been that the share capital would have been practically valueless. The directors, therefore, offered to give them 30,000 ordinary shares as a bonus for coming in. In a Cost-book mine the committee had unlimited power to assess the shareholders up to the cost of working the mine; in America they could assess the shares, and if the shareholders did not pay the shares could be thrown upon the market, and reduce the shareholders to a clientele who would pay, but under English law the directors could not assess the shareholders, and although there were 1500 shareholders on the books of the company only 230 came forward and took up debentures—to take the cheques out of the fire, in fact. It was only right, if a company got into difficulties, that everybody should bear his share of the burden, and, if the company came all right through finding additional money, each shareholder would benefit in the increased price of his shares. The bonus shares which it was proposed to give to the debenture-holders was for the purpose of getting the debenture-holders to consent; if not they would not have consented. Even now there were a few who had not sent in a distinct reply, but the directors had received the assent of 47,000 out of 50,000, 20,000 had sent in no distinct reply, and 10,000 said they would not join. The only thing was to endeavour to please the majority of these, and the directors had, to a great extent, pleased the majority, if they might judge by the large amount of proxies which had been received. The directors had an enormous amount of proxies; even to-day 7000 of proxies had come in. The board had done the best they could to meet the wishes of all persons. People would naturally say—"What guarantee have we if we subscribe the money to carry on the concern that it will not be swallowed up again in the unfathomable gulf of expenditure?" He would answer that by two questions, and the meeting must consider them. Up to the present time their hands had been continually in their pockets for the capital expenditure of this property. They had spent 50,000 on the mill. They had finished the water connection, and had also finished the gravity tramway. They had three shafts open on the Peru lode, exposed for 1400 feet in length. They had two shafts 100 and 120 ft. deep; all that had been done, and what Mr. Provis had to do was to run the levels, and by the end of this month he would have 20 stamps running, by May 30 stamps running, and by the end of the year 60 stamps running. Therefore, they had the capital expenditure done, and he could not imagine any condition of things in which they could start better, and they would have 50,000 in hand if they called it all up; but he hoped they would not. These would be free assets to carry on the property with. The second answer was they had now on the ground a director whom they could trust—Mr. Scriven—and also Mr. Provis and his brother. These were his two arguments in asking the shareholders to subscribe more money to the concern. (Hear, hear.) If they were not satisfactory he did not know what would be. They would start with 300,000 of capital; they would get rid of the mortgage debts and the founders' shares, and as he had said, they would have 300,000 of capital, of which 50,000 would be free assets. As regarded the Chile Company it would be remembered that that company laid claim to a portion of this company's ground and building. This company appealed, and got a decision in its favour, and this favourable decision had been confirmed. Two of the Potosi shareholders (Mr. Bladen and Mr. May), to whom the shareholders were much indebted, exerted themselves to bring about a compromise between the two companies, and he was glad to say that they had been successful, and under these circumstances it was better to bury the hatchet and accept the terms which had been agreed upon between the two companies. He hoped the shareholders would unanimously agree to the scheme which had been set out in the circular which had been issued, and he would, therefore, move—"That the liquidator be and he is hereby authorised to consent to the registration of a new company, to be named 'The New Potosi Company (Limited),'

with a Memorandum and Articles of Association, which have already been prepared with the privacy and approval of the directors of this company; and that the draft agreement submitted to this meeting, and expressed to be made between this company and its liquidator of the one part, and the New Potosi Company (Limited), of the other part, be and the same is hereby approved; and that the liquidator be and he is hereby authorised to enter into an arrangement with such new company, when incorporated, in the terms of the said draft, and to carry the same into effect."

Mr. LATTY (the solicitor of the company) read the agreement referred to in the resolution, and mentioned that the agreement and the Articles of Association could be seen at the offices of the company.

Mr. ROBINSON said he thought several people in the room had an objection to the terms. He, at all events, had. In the first place, he thought the directors were proposing to give the shareholders too great an interest in the new company for what they gave up. The debenture-holders certainly had the right of preference, but they had given up their right to exchange their preference shares for ordinary shares. He considered those to be very inequitable terms, and it seemed that the directors, who were large debenture-holders, were looking more after their own interests than those of the general body of the shareholders. (Hear, hear, and no, no.) He considered that those shareholders who were willing to subscribe the 43,000, should rank with the second debenture-holders, and have preference shares given them. A right division would be that the ordinary shares should be divided into five, for which three ordinary shares and one preference share should be given. The arrangement seemed to be entirely in the interests of the debenture-holders. (Cheers.)

The CHAIRMAN reminded Mr. Robinson that the directors were debenture holders in spite of themselves; they took up the debentures because the shareholders would not do so. (Cheers.)

Mr. MATTHEWS said he only held 1000 of debentures, and he had worked as a director since last November entirely in the interests of the shareholders. (Cheers.)

Mr. ROBINSON moved that instead of the arrangement proposed the shareholders who found the money should have preference shares for the money subscribed, or that three or four of the largest shareholders should be nominated as a committee to confer with the directors as to the best arrangement that could be made with that end in view.—The amendment was not seconded.

Mr. F. BLADON trusted that the shareholders would take a common-sense view of their position. Speaking both as a debenture-holder and as a shareholder, he might say that the arrangement did not please him in either capacity, and, therefore, he concluded that it must be a just scheme. (Laughter and cheers.) In the Eberhardt Company the arrangement made with the debenture-holders was more favourable to them than the scheme now before the Potosi shareholders, but he, as a shareholder in the Eberhardt Company, considered the terms then given perfectly fair, because the debenture-holders came forward at a very critical time when the property would, but for their assistance, have been valueless. By this arrangement the capital would be diminished, and the debenture debt would be wiped out. It was also to be remembered that unless the company earned a profit the preference shares as highly encouraging, seeing that the information which they now received could be relied upon, and he trusted that the arrangement would be accepted with practical unanimity, and acted upon by the shareholders. (Cheers.)

Mr. MATTHEWS supported the proposition as a shareholder, and said that under the present management there was every reason to believe in the future of the company. In the past the property had certainly not been well managed, but with Mr. Scriven, and the Messrs. Provis there they had an assurance that everything possible would be done to develop the property legitimately and profitably.







had been from 50 down to 30 ft. wide, and there was an inexhaustible amount of stuff to work away. They had opened 170 fms., which gave a large amount of stuff, and there were 100 fms. from there to the old mine, where the lode left by the old workers was reported to be very rich, and his object was to force on and communicate with the old workings. There was more mineral at the present point than could have been expected from its situation in the hill, but they were now coming to a level place of ground where, according to analogy with other mines, they might expect something very rich. There was no doubt there was a splendid piece of ground in advance of that hill. They had also taken up a deeper adit from the bottom of the wheel race which would give an inexhaustible amount of stuff. When once the machinery was in full work he was sure the mine would give every satisfaction.

Mr. BENNETT: And the lode you consider satisfactory?—Capt. MANLEY: We have no fault to find; it is tinny throughout.

Mr. BENNETT: And when we get to the second level sinking it will be richer? Capt. MANLEY: We expect so; it is usual.

Col. HOGG: The lower adit from the wheel-pit has not been started at all? Capt. MANLEY: Yes, it has been run 10 or 11 fms.

Col. HOGG asked whether the pulveriser which was at work freeing the ore from the oxide of iron was a temporary arrangement just to deal with a certain quantity of ore, or would it free all the ore from the oxide of iron.—Capt. MANLEY: We expect we shall have to get two or three more.

Col. HOGG: You know what quantity of ore will have to be operated upon? Capt. MANLEY: About one-third of the tinstuff will have to be treated by the pulveriser; but the deeper we go the more likely we are to get rid of the oxide of iron. The metal will be more pure. The tinstuff is rich enough; you do not want richer stuff.

The motion for the adoption of the report and accounts was then agreed to unanimously.

On the motion of Mr. DANGERFIELD, seconded by Capt. S. RICHARDS, Mr. H. W. Ripley was reappointed a director.

On the motion of Mr. C. E. KAY, seconded by Mr. DANGERFIELD, Mr. J. Bennett was re-elected a director.

The CHAIRMAN: I beg to return my thanks. I can only say that what has been done in the past will be done in the future, and no efforts will be wanting to bring the concern into satisfactory working.

Mr. BENNETT also acknowledged his re-election, and said he would bring his technical knowledge and his experience in mining in all parts of the world to bear in making this company the success which he believed it will be.

Mr. GLOVER proposed the re-election of the auditors, Messrs. Foreman, Son, and Co.—Mr. BENNETT seconded the motion. He said Messrs. Foreman was a firm of the highest standing, and the shareholders were also indebted to them for lending that room for the use of the meeting.

Mr. FOREMAN, sen., acknowledged the re-election of his firm. Before sitting down he proposed a vote of thanks to the Chairman and directors for their efficient conduct of the business. The motion was seconded and carried.

The CHAIRMAN acknowledged the compliment, and the meeting broke up.

#### POLCREBO TIN MINE.

The general meeting of shareholders was held at the offices of the company, Great Winchester-street, on Wednesday.

Mr. W. MOLESWORTH ST. AUBYN, M.P., in the chair.

Mr. W. BATTYE (the secretary) read the notice convening the meeting.

The CHAIRMAN said he was happy to be able to state that, in his opinion, the prospects of the mine were more satisfactory than they had ever been before. The reports which had been received from Capt. Martin and Captain Prisk, who had been called in as a man without any interest in the mine to make an independent report on the property, were of a very agreeable character. It appeared that since last meeting there had been a great discovery in the 30 east of the Highbury shaft, and also at the bottom of the shaft, which had now been sunk down to the 40. They were told that there was tin in almost every point of the mine.

Capt. Prisk was far more eloquent in his report than any words of his (the Chairman), but he could speak of the appearance of the mine from recent personal observation, having been on the mine with Captain Martin the day that the discovery was made; and on his way back to London the next day Captain Martin gave him the three fine specimens of tin which were now on the table, from which those gentlemen present who were conversant with mining would be able to judge of the value of the mine—780 shares—and some other small shareholders had followed his example, and relinquished their shares, bringing up the total relinquishments to 895 shares. This was at one time a matter of very considerable anxiety to the committee, as it might have had a very bad effect on the prospects of the mine generally. He thought he ought to mention that the recent discoveries to which he had alluded were made within a day or two of the date of the relinquishments. However, he was happy to say that since the relinquishments had been made a larger number of shares had been applied for than the number given up by Mr. Mitchell and his friends in the neighbourhood of the mine. (Hear, hear.) Therefore, it was with a great amount of pleasure and satisfaction that he regarded the prospects of the mine, which were more encouraging than at any previous period of its history, and he hoped and trusted that before long they would be able to give the shareholders a practical proof of the anticipations which he was giving utterance to.

The statement of accounts (showing a balance of assets over liabilities of 532, 9s. 9d.) was then presented, and on the motion of the CHAIRMAN, seconded by Mr. W. STRAPP, they were received and adopted. The agents' reports were then read.

Mr. EDWARDS moved the adoption of the reports of Capt. Martin and Prisk, and their circulation, together with the accounts, amongst the shareholders.—The Hon ASHLEY POWSON seconded the motion, which was carried.

The CHAIRMAN said that with regard to the call Capt. Martin considered that a call of the same amount as that made at the preceding meeting—2s. per share—would be sufficient to carry on the operations for the next four months.

On the motion of Mr. POWSON, seconded by Mr. W. STRAPP, a call of 2s. per share was made, payable on or before Feb. 19.

Mr. MATTHEW ROBINSON moved the re-election of the committee of management.—This motion was seconded by Mr. W. STRAPP and carried.

On the motion of the CHAIRMAN, seconded by Mr. EDWARDS, it was decided to forfeit the shares on which the fifth call (3s. 10s.) was in arrear, if the amount due was not paid by Feb. 19.

The CHAIRMAN mentioned that 895 shares had been relinquished and forfeited, and that the applications since received were for 1043 shares, which was, he considered, a highly satisfactory state of things. The shares would be allotted *pro rata* amongst the applicants.

The meeting closed with a vote of thanks to the Chairman and committee.

#### LADYWELL MINING COMPANY.

A meeting of shareholders was held at the George Hotel, Shrewsbury, on Feb. 2, at the invitation of Mr. A. Whittall, the arbitrator, to receive his resignation, appoint a successor, and other business.

Amongst those present were—Mr. A. J. Brookes, Mr. A. Waters, Messrs. Wade and Thomas (solicitors), Mr. E. Bullock, Mr. J. R. Humphreys, and Mr. John Swain (all of Shrewsbury); Mr. J. S. Birch, London; Mr. H. L. Newell (solicitor), Bishop-castle; Mr. Snell, London; Mr. Corbett, &c.

Mr. H. S. NEWELL was elected Chairman of the meeting.

A discussion took place at the commencement of the proceedings as to the admission of reporters, Mr. SNELL objecting.

Mr. BIRCH objected to Mr. Snell speaking, and demanded the register of shareholders to see if his name was on the register.

The CHAIRMAN said the books were in London, and that he did not receive Mr. Birch's notice to produce until he was on his way to the meeting. He suggested that Mr. Birch should ask Mr. Snell for his transfer.

Mr. SNELL said he was a shareholder.

The CHAIRMAN said Mr. Snell had shares, but they had not registered the transfer of them, as it was too late.

Mr. BIRCH then protested against his voting, on the ground that under the Articles no one could vote unless he is duly registered and has held shares for two months.

A vote was then taken as to the admission of reporters, when four voted in favour and six against.

Mr. BIRCH demanded a poll, which was supported by two other shareholders. After some discussion the resolution to exclude reporters was withdrawn, and the business proceeded.

Mr. WHITTALL (the liquidator) formally tendered his resignation, and the CHAIRMAN said he would read the liquidator's report.

Mr. SNELL said that if it went into the papers the reporters would be liable to be committed for contempt of Court, as the proceedings were still pending.

Mr. CORBETT wished to know why copies of the previous report had not been sent round to the shareholders?—The CHAIRMAN: Because there were no funds.

Mr. SNELL: Do you intend to print and send out this report?—The CHAIRMAN: Certainly not.

Mr. BIRCH, after complaining that one meeting had been held of which he had not had any notice, announced that Mr. F. S. Darnell had already been appointed as liquidator of the company.

Mr. CORBETT said he should like to know if Mr. Whittall was still liquidator of the company?—The CHAIRMAN: He is. He then proposed that Mr. Whittall's resignation be accepted, and that the accounts be examined by three or more shareholders.

A discussion ensued as to whether Mr. Whittall had not already resigned, and Mr. SNELL ultimately suggested that the words be added to the motion "if he is still the liquidator."

The CHAIRMAN then proposed, and Mr. COOPER seconded, the motion in the following form:—"That Mr. Whittall's resignation be accepted if he is still the liquidator."

Mr. BIRCH moved as an amendment—"That this meeting accepts the resignation of Mr. Whittall, and approves the appointment of Mr. F. S. Darnell in his stead." Two voted for the amendment, but the proposition of the Chairman was carried.

The CHAIRMAN then proposed the name of Mr. W. Serle Jackson as liquidator of the company.

In answer to Mr. BIRCH, he said he did not know his name had been sent to the registered office of the company.

Mr. BIRCH said he should object, as his name should have been left at the registered office for several days previous to the meeting.

A discussion took place as to whether this was necessary, Mr. SNELL contending that they were proceeding under the Act, the company being in liquidation, and Mr. BIRCH stating that the Articles of the company must not be ignored.

Mr. J. R. HUMPHREYS said he had applied to the Court to appoint a liquidator, and they appointed Mr. A. Cooper. He would propose that he be appointed liquidator to the Ladywell Mining Company. He was the President of the Institute of Chartered Accountants.

Mr. SWAIN seconded the motion.

Mr. BIRCH charged Mr. Humphreys with going to Court without the opportunity of the shareholders having a consultation. He (Mr. Birch) represented the interests of shareholders who had 7000l. in the mine, and they thought proper to consult the shareholders before going to Court.

Mr. CORBETT said it struck him as a most extraordinary proceeding for Mr. Whittall to call them to receive his resignation, and to appoint Mr. Serle Jackson. That seemed a very funny thing to do after it had been decided by a large majority of the shareholders that Mr. Darnell should be the liquidator. (Mr. Corbett here read an extract from the circular convening the meeting.) He had not the slightest knowledge whether that statement was true, but they had always been given to understand that the sum of 17,500l. had been expended in the mine, and that the mine had been a failure, and there was no funds to go on with. It was an extraordinary thing that the liquidator had not informed them before that 13,000l. had gone into the pockets of the promoters until after the January meeting had been held in London. The shareholders appear to have been kept in the dark as to these facts. He thought, under these circumstances, it was incumbent upon him to support the appointment of Mr. F. S. Darnell as liquidator. On the other occasion Mr. Whittall's name was suggested as liquidator, and now the appointment of Mr. Serle Jackson is demanded, and he could not understand it. If necessary, he was ready to propose that Mr. Darnell's name be accepted by this meeting, although he was told that Mr. Darnell was already legally appointed. He would move his resolution in this way:—"That if Mr. F. S. Darnell is not already legally appointed, that he be hereby appointed the liquidator of this company."

Mr. BIRCH seconded this motion.

Mr. SNELL said Mr. Brookes was most anxious to have the matter investigated and to go on with the matter, provided that his costs would be secured if he succeeded. He had a great interest in the mine—200 shares and 200 preference shares. He proposed that Mr. Whittall be appointed.

Mr. BROOKES seconded the motion.

After some more observations the CHAIRMAN put the resolutions, when two voted for Mr. Whittall and five against. The amendment was therefore lost. On the amendment that Mr. F. S. Darnell be appointed four voted for and eight against.

On the motion that Mr. Cooper be appointed seven voted for and four against.—The CHAIRMAN declared Mr. Cooper elected liquidator.

Mr. BIRCH said he demanded a poll on behalf of Mr. Darnell.

The CHAIRMAN said it must be done legally.

Mr. BIRCH, Mr. CORBETT, and Mr. DUNCALFE demanded a poll.

Mr. SNELL enquired who Mr. Duncalfe was, and it was stated that he held shares as executor for his father.

The CHAIRMAN ruled that he was disqualified.

Mr. BIRCH protested against this, and asked the Chairman to take a note, and a poll was then demanded by Messrs. Birch, Corbett, and Bullock.

The CHAIRMAN said he must have the demand in writing.

Mr. BIRCH read a letter from Admiral Brandreth, a large shareholder, quite approving of what had been done.

Mr. BIRCH handed in a written demand for a poll, which the CHAIRMAN said was informal, and the meeting, which had been very noisy throughout, broke up very abruptly.

GLASGOW CARADON CONSOLS.—At the meeting in Glasgow on Monday (Mr. Arch. Arrol in the chair) the accounts showed a loss on the year's working of 2026l. 8s. 6d., and the total debit balance 3564l. 13s. 2d. The Chairman assured the meeting that the prospects of the mine were very good—better, the directors considered them, than they had been for some years. From the 68 to the 75 the mine was very productive, and returned about 26,000l. But after the working was extended below the 75 a run of poor ore was won, and the results were very disappointing. The mine was now being sunk from the 114 to the 128, and very different results were expected by the directors; in fact, all the mining engineers who had seen the mine, as well as Capt. Taylor, the company's own engineer, were very sanguine that from the 124 to the 128 the mine would be very productive and profitable. Everything tended to show that as the mine was deepened from the 114 downwards the lode improved, so that with the extra depth the directors hoped they would be able to get such results as would yield dividends—not only equal, but he hoped superior to what were paid when they were working from the 75 to the 78.—Mr. McCLURE observed that the Caradon Mine was not a mine of the description referred to by Mr. Cruickshank. There had been too many mines of that description—floated by means of glowing reports, but yielding no results. The Glasgow Caradon was not one of them, however, for it had paid 25,000l. in dividends, and the dividends had only ceased through an interruption in the lodes. They were just now endeavouring to overcome that interruption, and he hoped their endeavours would be attended with the best results.

COOK'S KITCHEN.—At the meeting on Feb. 2 (Mr. W. Pike in the chair) the accounts showed a loss on the 16 weeks' working of 1037l., and a debit balance of 3667l. A call of 5s. per share was made. The Chairman said dues were not charged in the accounts, Mr. Basset having remitted them unsolicited for 12 months. The agents reported:—"During the past four months the boring-machines had principally been employed in driving the cross-cut at the 175 as it was thought desirable the lodes should be intersected at that level as quickly as possible. The cost of this deadwork, with little or no returns therefrom, had been about 500l. As the bottom of the shaft was now at a good depth, and in the granite, they proposed to drive west in the place of the engine lode towards the great cross-course, there being 150 fms. of unexplored ground in the direction. There was now at surface 300l. worth of copper and tin, which was not credited, although it was partly dressed."

WEST PEEVOR.—At the meeting on Jan. 31 (Mr. T. Pryor in the chair) the accounts showed a loss on the 16 weeks' working of 1692l., and a total debit balance of 3039l. A call of 10s. per share was made. Labour costs had been reduced since the last meeting by 550l. to 330l. a month. Their merchants' bill had also been lessened, but the price of tin had gone down 5s. a ton. The Purser was pleased to say the lodes had shown a disposition to do something to relieve the burden pressing on the adventurers. At the last meeting he was authorised to make an application to the lords of the manor of Treleigh for the remission of the dues, and they had consented to give up the whole of the dues during pleasure. Capt. Wickett said it was satisfactory to see in these times of depression the lords showing an inclination to help adventurers. He hoped the time would not recur when dues would be paid concurrently with calls. When dividends were available the imposition of calls was a different matter. It was evident most of the lords in that locality were making an earnest endeavour to realise the present position of mining. That this was the case was particularly illustrated by what the Rev. Molesworth St. Aubyn did in Wheel Peavor lately by remitting the dues, although some time ago he paid a large sum of money for his property in that neighbourhood, and he had not as yet derived much benefit from it. (Applause.) He had much pleasure in moving a vote of thanks to Messrs. G. Mitchell, T. Pryor, D. W. Bain, and Mrs. Champagne, the lords and lady of the manor of Treleigh.

SORTIDGE COPPER MINING COMPANY.—At an extraordinary general meeting of shareholders, held at the offices, Austin Friars, on Monday, it was stated by Mr. H. S. Strachan, who presided, that few applications for the 10s. shares having been sent in in response to the circular of the directors, there was no alternative but to wind-up, as the liabilities of the company, exclusive of land damage, amounted to over 1500l. The course was much to be regretted, but it was the only one now open to them. Resolutions having for their effect the voluntary liquidation of the company, and the appointment of Mr. C. H. Smith as liquidator, were then passed, and the meeting closed with the usual compliments.

SOUTH CROFTY.—At the meeting on Feb. 2 (Mr. H. J. Lean in the chair), the accounts showed a loss on the three months' working of 1624l., and a total debit balance of 5241l. A call of 15s. per share was made. The agents' report having been read, Capt. Josiah Thomas said they would take from three to four months to get through the winze mentioned in the report. They would then have a piece of ground opened up—supposing the lode between the 180 and the 205 to be of the same value as the 180—worth 20,000l. They could then drive westward on the north lode without much, if any, loss at the present price for tin. No one knew what tin ground they had when they considered how productive the district was. The 180 for 30 fms. in length, was worth 65 lbs. of tin per ton. At the last meeting an item of 588l. appeared as a tin account. Some supposed they had not had the tin. This was a mistake. He had this tin in the hut, and they afterwards sold it for 648l.—Mr. Bailey (London) directed attention to the large amount of 718l. owing for dynamite.—Mr. Alfred Lanyon remarked that however essential dynamite might be in mines, it really seemed to him that shareholders should consider if there was not an extravagant use of that explosive. He did not speak from practical knowledge. But he would say that miners now, in order to save themselves manual labour, would recklessly spend the adventurers' money in utilising dynamite. They should consider the money formerly spent in powder, and the money at the present time paid for dynamite. If there was not more supervision exercised he asserted that mines would not continue to work.—The Chairman mentioned that he thought there was something in what Mr. Lanyon had said, and he had told men that they would have to pay 2s. per pound, if they used it, and they would save the money if they did not use it. He, however, found that there was really no difference in the quantity expended. He had contended for the past two years, and publicly, that dynamite was not so valuable as was thought in some instances. In making shafts in wet ground, and in driving ends, however, dynamite was invaluable. They, by its means, saved 50 per cent. on powder. In ground of moderate hardness, where the lode was large, that ground could be broken much cheaper than by dynamite. Dynamite had, however, got into such universal use that it was difficult to get the men to use anything else. The price of dynamite had gone down rapidly. He had that day made a contract for a supply of dynamite at 117l. 5s. per ton, where previously they gave 200l. per ton. If the price dropped a little lower powder would disappear altogether. In that event dynamite, which was so ironical, so powerful, and so safe, he believed, would come into almost universal use. He continued that he had received a letter from Mr. Bolden, the agent of Mr. Basset, who said that in view of the heavy calls which had fallen on them, and the increased water charges in the matter of Carn Brea, he was instructed to state that, providing no profits were made during the next 12 months Mr. Basset would remit all dues for that period. Mr. Basset had had one-quarter of the shares in the mine—one-sixtieth. Mr. Grayville, the agent of Mr. Tyrang-

ham, had written saying that they would submit their appeal to the lord. Messrs. Grylls, Hill, and Hill had written to say that Sir Ely Vyvyan agreed to terms mentioned in Mr. Basset's letter. Capt. Thomas recommended that they pay 10s. per month toward the water charges of Carn Brea. Capt. Teague had said, at a private meeting, that unless neighbouring mines assisted Carn Brea in this respect he should stop the mines.—The payment was sanctioned.—Mr. Hutchinson moved a vote of thanks to the lords for the remission of dues. The remission was calculated to do a deal of good; already had the spirits of mining people been raised. They hoped it was not only a relief, but an abandonment of the new policy introduced some time ago by the sanction of a fine, or the imposition of a large sum of money in the granting of a lease. He hoped it was a return to the liberal policy of some 30 or 40 years ago—a policy that led to the resuscitation of Dolcoath, and which would, eventually be so much for the benefit of the lord, of the adventurer, and of the mining community.

BLUE HILLS.—At the meeting on Thursday (Mr. C. Daubuz in the chair) the accounts showed a loss on the 16 weeks' working of 559l. 12s. 10d., and a total debit balance of 1737l. A call of 5s. per share was made. Mr. Hitchens noticed that the loss this time was not so heavy as in the preceding quarter.—The Chairman replied that they were not, but that in Penhalls things were worse.—Mr. Pike stated that Blue Hills was really a good property, and some of the shareholders could not give up. They had only been "scratching" at one end, and they had a quarter of a mile unexplored ground. The agents thought they might continue to work the mine at a loss of about 200l. per 16 weeks, and he should think the shareholders would be willing to go on working, while the loss was comparatively small.—The accounts were passed, and the agents' report read.—The Chairman then read the following resolution, which he thought would meet the wishes of the shareholders:—"Several large shareholders having intimated that they are unwilling any longer to carry on the mine at a continuous loss, it is resolved that this meeting stands adjourned till the 6th of March, and that the adjourned meeting be made special to consider the advisability of either selling the mine as a going concern, or adopting such measures for continuing the working or otherwise, as the shareholders may determine."—Mr. G. Coulter Hancock was sorry to arrive at such a decision. As far as the lords of the mine were concerned, he represented one-half of the dues, which he should be glad to give up during pleasure.—The Chairman said that was a great consolation. In those times all parties must go hand in hand. The shareholders were losing heavily. He had had interviews with one or two lords in the West, and they had generally thought it best to do what was most expedient. If the lords who owned the other half of the mine dues would not do as Mr. Hancock had done, and would have the utmost, the mine must collapse.—Mr. Hancock believed they had a good property in Blue Hills, and it would be a pity to give it up.—Mr. John Hitchens asked whether Blue Hills could not be worked on a lease for 1-24th to 1-48th. It was understood that the Rev. St. Aubyn H. Molesworth St. Aubyn would do the same. No reply had been received from Mr. Pearce Jenkin, the Duke of Buckingham's representative, who owned one-half. The feeling of the meeting was that the Duke of Buckingham should have taken the initiative in the matter.

PENHALLS.—At the meeting, on Thursday (Mr. C. Daubuz in the chair), the accounts showed a loss on the 16 weeks of 819l. 2s. 7d., and a total debit balance of 1445l. 9s. A call of 5s. per share was made. In accordance with a resolution passed at the previous meeting in October last, Mr. W. Pike stated that he had applied to the lords of the mine for a temporary remission of the dues, and that morning he had received a letter from Messrs. Paige, Kelly, and Grylls, offering on behalf of Mrs. J. M. Williams and Mr. R. Davey, of Bochym, a reduction of their portion of the dues from 1-24th to 1-48th. It was understood that the Rev. St. Aubyn H. Molesworth St. Aubyn would do the same. No reply had been received from Mr. Pearce Jenkin, the Duke of Buckingham's representative, who owned one-half. The feeling of the meeting was that the Duke of Buckingham should have taken the initiative in the matter.

HUNTINGTON COPPER AND SULPHUR.—At the meeting at Glasgow on Jan. 23, the liquidators submitted a report and statement of their actings and intrusions since the commencement of the liquidation. From this it appeared that the liquidators had succeeded in settling all the actions which had been raised against the company, and in paying off all the debts which existed at the date of the liquidation, both here and in Canada, and that after doing this there was a considerable balance on hand, with the mine and property in Canada still to realise. The accounts of the liquidators were approved of and a vote of thanks to, and expression of confidence in, them was unanimously passed.

NEW SOUTH WALES COAL.—AUSTRALIAN AGRICULTURAL COMPANY.—In the directors' report prepared for presentation at the meeting on Feb. 19, it is stated that a notice [advertised in the *Mining Journal* by the authorities] from the New South Wales Government, inviting tenders for 150,000 tons of steel rails, to be manufactured in the colony from colonial ore, is deserving of special mention. Such a notice cannot fail to attract the attention of colonial capitalists to the large deposits of hematite iron and limestone on the company's Port Stephens property, and the shareholders may take for granted that any overtures will be not only entertained but liberally encouraged. The four freehold estates of the Australian Agricultural Company in New South Wales are—1. Port Stephens Estate, situated on Port Stephens, a magnificent harbour, about 100 miles north of Sydney, occupied by the company's herds, contains large deposits of iron, limestone, and coal; one seam of the latter, about 23 miles from the wharf at Pumpkin Point on the Karuah, is of great thickness. Original grant, 464,640 acres; deduct quantity alienated to Dec. 31, 1882, 12,924 acres 2 roods 23 perches=451,715 acres 1 rood 16 perches. Total proceeds of sales, 40,692l. 18s.

The Newcastle Estate, 60 miles north of Sydney, adjoining the city of Newcastle; average thickness of coal seam, 10½ ft. Original grant, 1913 acres 1 rood 32 perches; acquired since by purchase from the Colonial Government in 1873, 2 acres 0 rood 25 perches = 1915 acres 2 roods 17 perches. Deduct quantity alienated to Dec. 31, 1882, 203 acres 0 rood 39 perches; leaving 1707 acres 1 rood 17 perches. Total proceeds of sales, 106,297l. 17s. 4d. The minerals underlying an additional 87 acres were also granted to the company.

Platt's Estate, situated on the River Hunter, about a mile to the west of the Newcastle Estate; coal not proved, but stated to underlie the whole of it. Original purchase, 2000 acres; acquired since by purchase, 2 acres 1 rood 37 perches; equal to 2002 acres 1 rood 37 perches. Deduct quantity alienated to Dec. 31, 1882, 120 acres 1 rood 14 perches; leaving 1882 acres 0 roods 23 perches. Total proceeds of sales, 4172l.

And the Warrah Estate, in the district of the Liverpool Plains, on the Great Northern Railway. Original grant, 249,600 acres; acquired since by purchase, 208 acres; equal to 249,808 acres. Deduct quantity alienated to Dec. 31, 1882, 391 acres 1 rood 10 perches; leaving 249,416 acres 2 roods 30 perches. Total proceeds of sales, 1850l. 2s. 5d.

COPPER AND TIN.—Messrs. HENRY ROGERS, SONS, and Co. (Feb. 7) write: The total visible supply of copper shows a decrease during January, if account be taken of telegraphic advice, of 1180 tons, and this fact gave for a time a much needed check to falling values. Smelters who have been able during the recent large demand for India to partially fill their order books for some months ahead, have been purchasers of considerable quantities of furnace stock in Chile bars, and the quotation for the latter after falling as low as 55l. 12s. 6d., consequent on realisations by disappointed holders, advanced to 57l., but has again relapsed to 56l. It is noteworthy that the value of various forms of refined ingot and manufactured copper has been at a higher ratio as compared with that of Chile bars than for some time past. Comparisons of the present situation are frequently made with the past, with the object of proving that with our present stocks a far higher range of prices is justified by all experience. But the future still depends on the development of the American production, and the information to hand is not sufficient to form an absolutely reliable estimate of what we have to expect.

The statistical position of tin as represented in the usual published figures has, as we anticipated, temporarily improved during January. The Straits shipments are stated to have been 1325 tons; our own advices, however, represent them as 1540 tons, but the discrepancy will, probably, be put right during the present month. Calculating on the basis of the first-named figures, the total tin supplies show a decrease of 770 tons, but to arrive at the above conclusion the American deliveries have to be estimated at a figure which at this time of the year is, probably, above the mark. We wrote at the beginning of the year that figures might compare favourably with those of 1883, during January and February, 1884, but that after that date increased shipments from the Straits might be expected to affect prices, and it is noteworthy that good judges resident in Singapore continue to take a very gloomy view of the probable course of values. In this market it has, however, largely accepted that, all available stock in the Straits would be hurried forward before the Chinese new year, and therefore the small shipments at this period were looked upon as a specially hopeful sign. It is, however, a fact that the usual custom has been departed from this year, and considerable local stocks have been held back.

COPPER.—Messrs. RICHARDSON and Co. (Feb. 1) write:—The stocks of Chile copper produce remaining unsold at Swansea on Jan. were—Ore, 147 tons; regulus, 420 tons; copper, 5057 tons. There has arrived since—Regulus, 5973 tons; and the sales have been, regulus, 854 tons; copper, 446 tons. The present stocks are—Chile ore, 147 tons; regulus, 5109 tons; copper, 4611 tons; New Quebrada ore, 1215 tons; Spanish precipitate, 750 tons; Portuguese ore, 424 tons; precipitate, 7 tons; French ore, 243 tons. Total unsold at Swansea—Ore, 2035 tons; regulus, 5109 tons; copper, 4611 tons; precipitate, 757 tons—equivalent to about 7630 tons fine copper. The private sales during the past month consist of the following:—1850 tons of Cape ore at 11s. 6d., 1000 tons of New Quebrada ore at 11s., and 1070 tons of Libiola ore at 11s. 3d. per unit. To arrive—600 tons Pomaron Precipitate at 11s. 3d., and 1110 tons Australian ore of 10 to 29 per cent. at 11s. to 11s. 3d. per unit. Chile charters for second fortnight of December were reported as 1300 tonsall bars and ingots, 800 tons of which for England and 500 tons for Continent. For the first fortnight of January 1000 tons bars and ingots, and 500 tons in ores and regulus, all for England.



## WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,  
MINEOWNERS, STOCK AND SHARE DEALERS, &c  
1, ST MICHAEL'S ALLEY, CORNHILL, LONDON

The tinstone at East Blue Hills is far beyond the average of the county. Dolcoath used to average 2 per cent., what it is now we cannot say; but at 2 per cent. it will be seen what an enormous quantity of stone had to be crushed to get 2 tons of tin. The whole stuff treated last month at East Blue Hills yielded from 14 lbs. to 109 lbs. of tin per ton: 1 ton 7 cwt. of the best rock brought 6 cwt. to the ton—very rich work. The shaft which has been cleared and secured has been commenced sinking to get under these rich stopes.

It should be understood that our operations here have not been confined to stopping the ore ground, nor to driving Gumpas adit towards West Kitty lode above the adit level, which is 50 fathoms deep. We have completed a new shaft from surface down to the 50, and as there was good tin ground all along the bottom of the 50 we shall now be sinking below it. If we find we cannot go down another 10 fathoms without a small engine we shall have to get one without any call upon the shareholders; and may soon double and treble our returns. At present the mine leaves a small profit on the tin sold.

We mention all these facts, for the other day we were told by a shareholder that some one "on the market" had told him we were "only playing at mining." On naming this to the local manager he writes, very truly—"We may be playing at mining at East Blue Hills, but I should think nine-tenths of the mines working would be glad to 'play' in the same way." We should think so too. We may add there is not a single liability in the mine, and a good balance in hand.

The latest report from Polrose states that in the 122 east there is at times a rich leader in the lode, yielding almost solid tin; and the whole of the lode, which is 3 ft. wide, is good saving work for tin, and leading the agents to expect a great improvement at no distant time. No mine in Cornwall has been carried on more pluckily than this, and the shareholders deserve success. At one time the shares were at 2½. 10s. each; they have since been to nothing, but a discovery such as the agents expect would soon send them to the old price; there are very few shareholders, and none who can afford to sell.

At Wheal Crebor the points in operation have improved to 51 tons of copper ore and 12 tons of mudioc per fathom.

A "Great Laxey Shareholder." We shall be glad to answer the questions privately, but obviously we cannot do so here. We are very well informed as to the state of the mine and its future prospects.

It is pleasing to observe that in Cornwall at least the lords of mines, who look into their own affairs, see plainly that in these times, and with present prices of metals, it is impossible for many of them to be carried on without very great concessions on their part. The every week we hear of fresh instances of liberality, and the lord of New Cook's Kitchen, Mr. Basset, has voluntarily relinquished the royalties for 12 months. We wish we could see the same spirit evinced in other parts, where the lords and their agents may find their mines thrown upon their hands altogether unless the same liberal spirit is carried out.

The new shaft at D'Eresby Mountain was commenced in October, and when complete the mine, we are assured, can work at a profit even at 7½. per ton. When the last issue of shares took place the sinking of this shaft was not contemplated. But the ore ground, from which was got from 500 to 600 tons of ore, dipped away south into the hill, and could not be properly worked below No. 6 level without this shaft from surface. Along the bottom of the deepest level—the No. 6—the lode was very rich for the 15 fms. driven upon it, and it was lengthening into the hill. This shaft will not only allow the ore ground to be stoped away above No. 6, but to work the mine into the rich lode below the No. 6.

**DYNAMITE, AND ITS ECONOMY.**—An interesting discussion took place at South Crofty meeting concerning the quantity of dynamite used in the mines. Mr. Lanyon remarked that, however, essential dynamite might be it was for practical men to consider whether the mines were not spending an extravagant sum in dynamite. Miners, to save themselves five minutes' manual labour, would expend—as long as the agents permitted them to do it—as much as 5s. of the adventurers' money in dynamite; and if they looked at the amount of money formerly spent in powder, and the amount now squandered in dynamite they would see it was a very serious matter. If there were not more supervision in regard to dynamite and other commodities the mines could not be worked. Dynamite must be used, but there were circumstances under which its use could be curtailed. He was satisfied there was not proper attention given to the matter. If you take the amount of money spent in the last two years in explosives and compare it with what was formerly spent—you will see there is necessity for more supervision and restriction. Capt. Josiah Thomas: I have said over and over again in the last two years I never did believe dynamite was so valuable in some places as some supposed it to be. In sinking shafts or where there is wet ground, or in driving hard ends with boring-machines, dynamite is invaluable. It would take 50 per cent. more to drive the ends with powder. But where the ground is of moderate hardness, and where the lode is large and dry, the ground can be broken cheaply with powder. Dynamite, however, has come into such universal use that it is difficult to get the men to use powder at all. Another thing, the price of dynamite is going down very rapidly.—Mr. Bailey: That is no reason why the men should be extravagant.—Capt. Thomas: Of course not, but I may say that while some time ago dynamite cost 200s. a ton I have this morning entered into a contract for a supply for 117s. 6s. If it comes a little lower probably no powder at all will be used in mines, dynamite being so easy to employ and such a powerful explosive; and I believe I may say, a safe one, as compared with powder. The following were the tenders from which Capt. Thomas elected to close the contract for 5 tons of dynamite.—Kreb Bros., 122s. 10s. a ton; Cornish Dynamite Company, 117s. 10s.; Rich and Sons, 117s. 10s.; and Rhenish Company, 116s. 5s.

From Mr. JOHN B. REYNOLDS.—The markets on the Stock Exchange have had a very disquieting appearance, the news from Egypt and certain financial embarrassments causing increased depression. It must be remembered that all circumstances which appear adverse are turned to account by operators for the fall, no matter whether they are really adverse or not. It does not require very much foresight to understand the possibility of affairs in the Boudan terminating favourably for our commercial interests generally. However, what has transpired will develop a vigorous policy, which it is freely asserted in City circles is much required just now. Investors are anxiously waiting for a further fall in prices, but it is questionable how far they are wise in doing so. Be this as it may, the present range of quotations is surely low enough to tempt the most cautious in the markets.

There has been activity in Corn Brea and Cook's Kitchen shares, no doubt mainly in consequence of the line of thought we suggested last Saturday. Buyers have been disappointed in many instances because their orders were sent to their brokers too late. Perhaps, however, when the present demand subsides a little they may have another opportunity. It has always appeared to us remarkably strange that investors will never study for themselves; on the contrary, they insist on others studying for them, and giving the result of their investigations in the public journals. When favourable facts well authenticated appear in print there is sometimes a sudden turn in the tide, which shuts out the possibility of people buying. The truth is, these low quotations are very misleading. Shares are marked down on the mere pretence, and we think unwisely so. It is evident that things are not so bad as they appear. Mining shares are much more firmly held than the public are given to suppose.

West Kitty is selling for (say) 80,000s., and probably this is about half its value. If so, what can be said about Trevaunance, the adjoining mine. Last week we were enabled to confirm the intelligence that Polrose was to be pushed vigorously forward. It may appear strange to the readers of the Mining Journal that this should be the case in these dull times; but if they think so they can know but little of the prospects of the mine in question, as future events will, we think, prove. A few enquiries would probably be wise.

## Mining Correspondence.

## BRITISH MINES.

**ANDERTON TIN.**—W. J. Bowhay, Feb. 5: I am glad to be able to say that the improvement reported in the 20 fms. level, east of cross-course, continues and improves as we go west. It is letting out strong streams of water from the forebreast and on the south of the level at all points. Here I have put men to cut into the lode to prove its size, but have not yet got to the south wall. This is not a mere leader of tin, the strata is regular and well-defined, and yielding tin of clean grain, and is tinny throughout. We have now got our tramway laid in this level, and are pushing on the drive, with three shifts, changing in place, and working from midnight Sundays until following Saturday night. We shall go to market with a parcel of tin next week. The machinery and all works at surface and underground, both ends and stopes, are doing well. My opinion of the prospects before us, which were unexpected east of cross-course, is getting more and more confirmed with every day's work. We have a fine property.

**BEDFORD UNITED.**—H. Treasler, Feb. 5: There is no change to report on the north lode, the rate of progress is without any alteration. Cullen's Engine Shaft: The shaftmen, having laid the shaft, and having been delayed a day or two last week, owing to the very wet time we have had of late. The lode in the 62 west is 3 ft. 6 in. wide, composed of spar, capela, mudioc, and ore, worth 6s. per fathom. In the same level east the drive is being continued by the side of the lode. No. 1 stop in the 62 east is worth 6s. per fathom, or 2 tons of ore. No. 2 west is worth 6s. or 1½ ton per fathom. In the 42 east the drive is by the side of the lode; the lode is strong and masterly and very promising. No. 1 stop in the 42 east is worth 20s. per fathom, or 5 tons of ore. No. 2 stop is worth 20s. per fathom, or 5 tons of ore. The lode in the 30 west is 4 ft. wide, composed of spar, capela, mudioc, and ore, and very promising. The tribute pitches on this lode continue to yield a fair quantity of ore.

**CARN CAMBORNE.**—W. C. Vivian, Feb. 17: I am pleased to be able to inform you that in the 105 east the lode has increased in size and improved in character since my last report. The lode is fully 4 ft. wide, composed principally of fluor-spar and yellow copper ore. I have not often seen a finer-looking lode. In the same level west the lode is smaller, and has not such a good appearance as the eastern end at present; I expect it to improve further west, judging from the 95. In the winze under the 95 the lode is 2 ft. wide, made up principally of spar, carrying black and yellow copper ores. In the 40 west, on north lode, we are cutting further north, and as the appearances favour the idea of there being more lode in that direction.

**CATHEDRAL CONSOLS.**—S. Davey, jun., Feb. 7: Setting Report: A pit to cut in the 84, by nine men, per bargain 15s. A cross-cut to drive south, by nine men, at 9s. per fathom. The shaftmen who are now cutting the pit will at once sufficient ground removed commence to drive south towards the great lode, when no time will be lost to reach this important point. The 74 to drive east, by six men, at 4s. 10s. per fathom; the lode is 3 ft. wide, composed principally of conical gossan for the production of copper, good stones of which is being found in it. The rise in back of this level is communicated to the 62, in which we have recently broken some rich grey copper ore, and good ventilation is opened for the bottom of the mine. The 50 to drive east, by four men, at 11s. per fathom; the lode is composed of decomposed quartz, producing low percentage tinstuff. The lode in the engine-shaft has in the last few feet sinking been larger, and presents a better appearance than for some time past.

**OREIGIOG.**—H. Hotchkiss, Feb. 6: Meadow Shaft: In the 130 cross-cut south the rock here is jointy, and shows more spar on the face of the rock; the stone is also more light in colour, and there is a sprinkling of lead ore in the joints. The 110 west is in a lode 2 ft. wide, which contains a little blende. The trial winze on bottom of this level is down 4 ft. 6 in.; nothing of importance found, so I have suspended further operations here. In the eastern workings east of winze below the 60, we have struck the hanging-wall of the lode; the composition of the lode here is highly promising, containing carbonate of lime, calamine with a good mixture of blende throughout, and some rich cubes of lead ore. The sinking of a new shaft from surface to meet this run of ore should be commenced on at once now the favourable season is drawing near for surface work.

**DWM DWYFOR AND BRYNARIAN (Brynnarian Mine).**—J. Davies, Feb. 5: The lode in the level driving east from Boundary cross-cut is of excellent character, and contains excellent spots of lead throughout.

**D'ERESBY MOUNTAIN.**—J. Roberts, W. Sandoe, Feb. 6: The lode in the rise is looking a little better, and the water not quite so quick. The trial winze on bottom of this level is down 4 ft. 6 in.; nothing of importance found, so I have suspended further operations here. In the eastern workings east of winze below the 60, we have struck the hanging-wall of the lode; the composition of the lode here is highly promising, containing carbonate of lime, calamine with a good mixture of blende throughout, and some rich cubes of lead ore. The sinking of a new shaft from surface to meet this run of ore should be commenced on at once now the favourable season is drawing near for surface work.

**DEVON FRIENDSHIP.**—P. W. Daw, W. Gill, Feb. 7: The 42 east, east of Bennett's engine-shaft, is set to four men, at 8s. per fathom, 2 ft. 6 in. wide, and at present not to value. Floyd's stop in the back of the 42, west of Bennett's shaft, is set to two men, at 35s. per fathom; the lode is 5 ft. wide, and worth 7s. 10s. per fathom. Tancock's stop, in the back of this level, is set to two men, at 35s. per fathom; the lode is 3 ft. 6 in. wide, and worth 7s. per fathom. Bright's stop, in the back of the 30, west of Bennett's shaft, is set to two men, at 30s. per fathom; the lode is 3 ft. 6 in. wide, and worth 7s. 10s. per fathom. Denham's stop, in the back of this level, is set to two men, at 30s. per fathom; the lode is 3 ft. 6 in. wide, and worth 7s. 10s. per fathom. We have put two men to stop in the bottom of the 12, west of Bennett's shaft, at 35s. per fathom; the lode is 3 ft. 6 in. wide, and worth for copper ore 8s. per fathom. A stop east of ladder winze, in bottom of adit level, east of Bennett's shaft, set at 3s. per fathom; value 6s. per fathom. Set to two men to drive adit end, west of Kent's shaft, at 4s. 2s. 6d. per fathom.

**DEVON GREAT CONSOLS.**—Isaac Richards, Feb. 7: Wheal Josiah: The work in connection with casing and dividing the Count House shaft below the 144 level, proceeding very satisfactorily, and a cross-cut to the 105, west of the Railway shaft, and the bottom of the shaft has been made, which has secured good ventilation in this part of the mine.—Wheal Emma, Inclined Shaft: In Glenfield's rise in the back of the 137 east the lode maintains a good size, 5 ft. wide, and continues to yield 2 tons of copper ore and 3 tons of mudioc per fathom.—New Shaft, New South Lode: In the 205 east the lode, 4 ft. wide carried, continues to yield a little good quality copper ore and 4 tons of mudioc per fathom.—Railway Shaft: In the Railway shaft, sinking below the 255 the ground continues to be favourable for progress, and congenial for the good quality of mineral. In the 255 west on the south part of the lode, 2 ft. wide carrying, is composed of capel and quartz, with peach and small quantities of copper and mudioc ores.—Watson's: In the engine-shaft sinking below the 100 the lode maintains its size, 4 ft. wide, and general promising character, and is yielding 3 tons of copper and mudioc ores per fathom. In the 32, east of the western shaft, the lode is 1½ ft. wide, composed of capel and quartz, with small quantities of copper and mudioc ores. In the 20, east of the western shaft, the lode is 1 ft. wide, and contains small quantities of copper and mudioc ores.

**DEVON GREAT UNITED.**—Isaac Richards, Feb. 12: In the 120, east of Willesford's shaft, the lode is 3½ ft. wide, of a very promising character, and continues to yield some good quality copper and mudioc ores. In Pengelly's rise in the back of the 120, west of Willesford's shaft, the lode is 4 ft. wide, yielding 2 tons of copper and mudioc ores per fathom. In the 104, west of Willesford's shaft, the lode is 4 ft. wide, yielding 2 tons of copper and mudioc ores per fathom. In the 60, west of Watson's shaft, on the middle lode, the drive is being carried by the side of the lode for some speedily progress.

**DRAKEWALLS UNITED.**—Moses Bawden, Feb. 7: Setting Report: A cross-cut to drive south to the shallow adit, west of engine-shaft, by four men, at 5s. 10s. per fathom. The 40 fms. level, to drive west of engine-shaft on the north branches, by four men, at 5s. per fathom. Rise in back of 40 fms. level in same branches by six men, at 5s. 5s. per fathom. A winze to sink below deep adit level, west of engine-shaft, on the south branches, by four men, at 5s. per fathom. We have the following men working on tribute at 10s. in 1½, with a standard of 50s. per ton of black tin:—Five in back of shallow adit on the north branches, west of engine-shaft; 12 in back of 40 fms. level, west of engine-shaft; 12 in back of deep adit level, east and west of engine-shaft; four in back of 50 fms. level, east of engine-shaft, and four in back of 90 fms. level, west of engine-shaft. We have six men assisting the pitmen in repairing and securing the engine-shaft and Matthew's shaft; one man assisting the timberman, and six men tramming and filling; together 71 men employed underground. The north branches in the rise in back of 40, west of engine-shaft, still continue in firm ground, and maintain their size and character, producing good tinstuff for the stamps. At the shallow adit west we are continuing south to the great Gumpas, for the purpose of ventilation; this will take from a week to 10 days to accomplish, and we shall commence a winze in bottom of shallow adit to communicate with the rise in back of 40, which, when completed, will lay open a good section of tribute ground, and we think that in three months from this time we shall have somewhat recovered from the breakdown we had two months since in the deep adit, and considerably increase our returns. We sold on Jan. 31 10 tons 2 qrs. 11 lbs. of black tin at 42s. 6d., and expect to have another 10 tons ready for sale at the end of the month.

**EAST BLUE HILLS.**—S. Bennett, W. K. Mitchell, Feb. 6: During the past month the eastern shaft has been completed down through the various stopes to the back of the adit level, and the necessary preparations made at that level, and the sinking below on the back of the lode commenced. The lode will not be cut through for a fathom or two, so as to prevent the adit water from finding its way down so much as possible. The four stopes now at work are without much change, and continue in value respectively 6s., 7s., 7s., and 8s. per fathom. We expect to sell on Friday 1½ tons of tin.

**EAST BOTALLACK.**—Thomas Trevelyan, Feb. 7: The engine-shaft is sunk 8 fms. 2 ft. under the 10. It will take a fortnight after this week to reach the 20. I believe the run of tin ground in the shaft is dipping east before the horse of granite; and think we shall have the tin in the 20 before we have driven 18 ft. east of shaft. The lode in the 10 east is looking well. Quality of stuff varies from 55 to 150 lbs. of tin to the ton.

**EAST WHEAL LOVELL.**—R. Quentrell and Son, Feb. 6: We are now driving east and west of shaft on the south lode which continues to open out very satisfactorily. It is an exceedingly promising lode for the depth, containing tin throughout, and some portions of it are very rich. We have now broken some rich stones of tin from the north lode within the last few days, which is very encouraging. At Sevorogan the lode in the 27 west has a very kindly appearance, and contains a little tin.

**GAWTON.**—G. Rowe, Feb. 2: We have no particular change to report in the various stopes during the past week. Mr. Bawden will send you his setting report in the early part of the coming week.

**MOSES BAWDEN, Feb. 5: Setting Report:** The 117 to drive east, by six men, at 10s. 10s. per fathom. The 117 east, in No. 1 stop, by four men, at 6s. 15s. per fathom. The 117 east, in No. 2 stop, by four men, at 6s. per fathom. The 115 east, in No. 1 stop, by four men, at 5s. per fathom. The 105 east, in No. 2 stop, by four men, at 5s. 15s. per fathom. The rise in the back of the 105 east, by four men, at 12s. per fathom. The 95 to drive east, by six men, at 11s. per fathom. The stop in the back of the 52, east and west of the engine-shaft, by six men, at 6s. per fathom. The stop in back of the 70, east and west of engine-shaft, by six men, at 5s. 15s. per fathom. The stop in back of 70, east and west of engine-shaft, by four men, at 5s. per fathom. It is our intention to set this week the 70 to drive west of engine-shaft, as we cannot make some discoveries of copper ore, such as we had in the upper levels in former days. We have proved beyond doubt that we have a rich lode of arsenical mudioc standing to the south of the old workings, and it is a question if we shall not in the course of a few months

erect two more furnaces for treating the ores; in the meantime, however, we shall select it carefully, and burn only the best mudioc. The 117 east is showing a better appearance, and will yield some good stones of copper ore and arsenical mudioc; the lode here is very large, but we are at present only carrying 6 ft. of the south part. The 95 east is yielding some good quality arsenical mudioc, and will soon be in over the stop in the back of the 105, where there is a good lode of arsenical mudioc, and in which we shall put up a rise to communicate with the 95. I think that on the whole our prospects are better than when I last reported.

**GOODEVERE.**—R. Knott, Feb. 6: We continue to urge on our operations on the engine-shaft lode, which is about 2 fms. wide, with a kindly appearance for an early improvement. The ground being easy there is no blasting required. We have put two men more to force on this point, and I am pleased to say there is every probability of soon laying open a good property.

**GORSELD AND MELLILLYN.**—W. T. Harris, Feb. 7: The 70 east of the lode is increasing in size, and contains a larger quantity of lead than last reported. Water issues freely, and an early change for the better is daily looked for. The pitch in bottom, west of shaft, is also improving for lead.

**GREAT HOLWAY.**—W. T. Harris, Feb. 7: Hoskell's Shaft: In the 95 north the ground is easy for progress, and a little lead is visible throughout. Nothing can be more encouraging, and any day may now find the intersection with the east and west lode.—Level Engine-Shaft: The rise in the back of the 60 is yielding a little lead and blende. No. 1 pitch is producing ¼ tons of lead and 1½ ton of blende per fathom. No. 2 pitch is a splendid run of lead, yielding fully 5 tons per fathom and 1½ ton of blende. No. 3 pitch is producing 10 cwt. of lead and 1½ ton of blende per fathom. No. 5 pitch is worth 10 cwt. of lead and 2 tons of blende per fathom. No. 9 pitch is yielding 15 cwt. lead and 1 ton of blende per fathom. No. 10 pitch is slightly improved, now worth 2 tons of lead and 1½ ton of blende per fathom. All other pitches maintain the same value and prospects as last reported. Dressing is being vigorously pushed forward.

**GREEN RUTH.**—James Polglase, Jan. 31: The 44 east north is now worth 2½ tons per fathom. The No. 1 stop is worth 2 tons per fathom. The No. 2 stop is worth 2 tons per fathom. The No. 3 winze is worth 2 tons per fathom. The No. 4 stop is worth 4 tons per fathom. The No. 5 stop is resumed below Standage level to meet end ventilate the 44 east north; worth 1½ ton per fathom. The stop in the back of Standage level is worth 4 tons per fathom. The vein north of the heave (30) level is worth 2½ tons per fathom. Dressing operations rather impeded on account of severe weather.

**HARDINGS.**—Manager, Feb. 2: We are driving west in the vein in which there has been no alteration since last week. The old man has cut through the vein, to which a great many of the strings run with a cross-cut, and has driven a very small drift west about 6 fms. To make room we have shot some vein off the sides, on which cheeks are forming. As we proceed west we expect to get more limestone on. There is at present about 3 ft. We anticipate having further sill as we get further into the hill.

**HEALEFIELD.**—John Trelease, Feb. 1: Since my last report we have struck a large increase of water in sinking the Whitwell shaft. We cannot sink any further, as the water is too much for us. The water continues to come with great force from the present end, which is a favourable indication. It is intended shortly to commence driving a cross-cut south for the intersection of the No. 2 lode, which has not been seen below the 25. The 40 east is without important change. The lode contains capel, quartz, arsenical mudioc, peach, &c., and occasional stones of copper and tin ores.

**KILLFRETHER.**—J. Mitchell, J. Tamblin, Feb. 7: There is no change in any of our bargains calling for special remark since our last report, the average value being as near as possible as then. Our machinery and pitwork is in good working order.

**KIT HILL GREAT CONSOLS.**—Isaac Richards, Feb. 7: At the tunnel level the ground is without any material alteration, and the distance driven during past week is 2 fathoms. In the north engine-shaft, sinking below the 60, the lode is 6 ft. wide, of a most promising character, and yields a little tin ore. In the 55, both east and west, the lode is of large size, 5 ft. wide, also yielding a little tin ore, and its general character is such as to warrant a belief that as the workings are extended large quantities of mineral will be met with.

**LANGLEYLYN.**—O. Evans, Feb. 7: The lode in No. 1 level continues to yield good returns of lead and blende, with fair discharge of water from the end. The north end of No. 2 level is poor at present. The stop in the back is in good ore ground, and in the south end one man was able to break 2 tons of blende during the week, besides lead and nice stones of copper.

**MELLANEAR.**—John Gilbert, Feb. 6: We have met with another elvan course about 10 ft. wide in the 30 cross-cut, south of Gundry's shaft, which was very easy for driving. There is no change in the appearance of the ground since last report in the 70 cross-cut, south of the main lode, and the men continue to make good progress in driving. The lode in the 80, east of Gundry's shaft, on the south part, is yielding ¼ ton of copper ore per fathom. In the 100, west of shaft, the lode is 5 feet wide, yielding 2½ tons of ore per fathom. The rise in back of the 110, west of shaft, is yielding 3 tons of ore per fathom, and some very good work for tin. The lode in the 110, east of shaft, is 4 ft. wide, yielding 2½ tons of ore per fathom. The rise in back of this level is yielding 2 tons of ore per fathom. In the 120, east of shaft, the lode is 3 ft. wide, yielding 1 ton of ore per fathom. The rise in back of this level is communicated to the 110; this has laid open a good piece of ore ground, and also improved the ventilation of the 120. In the 120, west of shaft, the lode is 4 ft. wide, yielding 1½ ton of ore per fathom; it is letting more water, and easier for driving. The rise in back of this level is yielding 2 tons of ore per fathom. There is no alteration since last week in any other part of the mine.

**MID-DEVON COPPER.**—Jas. Neill, Feb. 2: A shaft sunk by 12 men, three with rock-drill and nine by hand labour, 1 ft. 6 in.; total distance below the 30 is 6 fms. 1 ft. 4 in. No change in character of the rock, influx of water not yet abated.—C Shaft: Cross-cut north from extreme end of 50 east, worked by two men and two boys for the first three days, and four men and two boys for last three days of week. The yield of ore still equals 2½ tons of ore per cubic fm., and strata retains its favourable features, being intermixed with chlorite, hornblende, quartz, and friable garnet, all of which are thickly interspersed with arsenical mudioc.—Surface: Weather has been very tempestuous for past week. All machinery is working well.

**MOUNT CARBIS.**—W. Tregay, Feb. 7: In the 60 cross-cut north we have intersected some branches containing stones of tin, with every indication of the lode being near. The lode in the winze sinking below the 50 is worth 16s. per fathom. The lode in the 38 driving west over the carbons is worth 12s. per fm. We have intersected some branches in the 50 cross-cut north letting out much water. We believe the north lode to be near. No other change to report.

**NEW ARADON.**—S. Richards, Feb. 6: The pitwork referred to in last week's report has been dropped for the time, which was done on account of the water-wheel has been set to work, which is, together with the pitwork, working first-rate. The shaft is drained to the point above referred to, and the men are now engaged clearing and securing the same, which will be pushed on with all possible dispatch. Kitto's lode, in the 10, driving west of shaft, is 2½ ft. wide, producing stones of rich yellow copper ore.

**NEW KITTY.**—W. Vivian, Feb. 7: Thomas's Shaft: We are now fixing a standing lift at the 20, and hope to resume the sinking of the shaft in about a week from this time. There is no change to notice in the other points of operation since last report.

**NEW TERRAS.**—J. D. Fraser, T. Edwards, Feb. 7: The cross-cut at the bottom of the engine-shaft is passing through a series of tin branches, which are letting out a good deal of water, and from this we calculate we are near the main lode. The new lode continues its size and character. All our machinery is working very satisfactorily, and we are now pushing on as rapidly as possible with our dressing appliances.

**NEW TRUMPER CONSOLS.**—R. Quentrell and Son, Feb. 7: Wheal Valls Lode: The lode in the 28 west has improved since last report. It is larger and contains some good tinstuff. It also produces some very good stones of copper ore, and from present appearances, and as the water has much increased, we are expecting to have a still better lode, and we think we shall have a good tin lode in depth as we had formerly. The lode in the winze below the 16 west is looking just the same as last reported. The lode in the 16 west is again looking better as we expected. It is now producing some very rich copper ore, especially towards the bottom of the end, and is altogether a very kindly lode.

**NEW WEST CARADON.**—S. Richards, Feb. 6: The lode in the 10, east of the 38 cross-cut, south of Hallett's shaft, is getting smaller as we leave the cross-course, it is now about 1 ft. wide, producing a little copper ore. It is not quite so large east. We think we shall be able to say more about this in a day or two. No. 5 lode is about 20 in. wide, composed of quartz, peach, prisa, and spotted with copper ore, a very promising-looking lode.

**NORTH BLUE HILLS.**—S. Bennett, Feb. 6: The adit level west, on the north lode, has been further extended about 3 fathoms during the past month, without however showing much change in the lode in the winze, it has varied from a few inches to 1 ft., and generally containing a small quantity of tinstuff, but not in sufficient quantity to value.

**NORTH GREEN HURTH.**—J. Polglase, Jan. 31: The deep cross-cut is letting out more water, and the ground is stained with vein matter. There are strong appearances of a vein. The vein south of main level is of a kindly nature. Nothing new in the new property.

**NORTH TRESKERBY.**—Pryor and Son, Feb. 7: The ground in the deep county adit cross-cut driving north from the engine-shaft is a little harder for progress, and the end letting out an immense quantity of water, and the ground continues to be strongly mineralised with mudioc, tin, and copper. The ground in Jabe's shaft continues much the same, and the men are making good progress in sinking the same. All other points of operation underground are without change to notice since our last week's report. All the surface operations are being pushed on with dispatch, and we are pleased to say the weather is now fine.

**OKEL TOR.**—H. Bulford, J. Rodda, Feb. 7: The 95, east of the new shaft, is being pushed forward rapidly. The lode is composed of peach, tin, and arsenical mudioc, and good saving work for tin. The cross-cut south of this level from the nature of the ground, which is congenial for mineral and letting out water, we think we are near the intermediate lode. The winze in the bottom of the 80 is sinking by the side of the lode for dipatch. The stop in the back of the 65 is producing 12 tons of arsenical ore per fathom.

**PANDORA.**—W. H. Borsae, Feb. 7: The 45 west is at present producing very nice stones of lead and blende, and is daily anticipating a further improvement. There is no other change in the mine calling for remark this week. We have replaced about half of our flat-rods, and should the weather continue favourable I hope in a few days to set the wheel pumping again.

**PATTERSYKE AND CLARGILL HEAD.**—J. Peart, Feb. 1: Top Level: The ore in this drift continues about the same as it has been for several weeks.—Low Level: The top drift at present is very hard to work; there is more vein, and a good deal of vein rider on the east side, the same as we had farther back, so that our prospects are much more encouraging. During the last fortnight the horse level forehead has not been working, having had all the six men in the top drift.

**POLROSE.**—W. Bennett, Feb. 6: The lode in the 122 east is 3 ft. wide, and contains a most promising character; at times we have a rich leader from which we break stones of nearly solid tin. The whole lode is tinny, good saving



work, and the indications are such as to lead one to expect a great improvement at any time. We are daily expecting to cut the south part of the lode in the western cross-cut, as from the bearing of the lode the distance we had to drive is just about spent.

**PRINCE OF WALES.**—S. Roberts, Feb. 6: In the 102 east the men are still driving by the side of the lode, which is letting out a large stream of water, which we are pleased to see, as it is a very good indication of productiveness. The lode in the 102 east is 4 ft. wide, producing fair quality tin, worth 6s. per fathom. In the 102 west the men are at present stopping the back. The part of the lode carried, 4 ft. wide, is worth 3 tons of copper ore per fathom, and 5s. for tin. Lode in 102 east in back of this level east of the rise is 6 ft. wide, worth 6s. for tin. The lode in No. 1 stop west of rise is 3½ ft. wide, worth 2 tons of copper ore per fathom, and 3s. for tin. In the 90 east during the past week the lode is much improved in character, and producing some splendid copper ore. In the 90 west the men are stopping the back and carrying a part of the lode, 4 ft. wide, worth 3 tons of copper ore and 5s. for tin per fath. No lode taken down in the winze sinking below this level.

**ROMAN GRAVELS.**—A. Waters and Son, Feb. 7: There is no change to notice in either the 125 north or 125 south of new engine-shaft since the date of our last report. The lode in the 110, south of this shaft, is 4 ft. wide, and worth 4 tons of lead ore per fathom. The lode in 95 south is 1½ ft. wide, worth 2 tons per fathom, and is improved. The 80 south is a lode 6 ft. wide, worth 3½ tons per fathom. The stopes throughout are producing their usual quantities of lead ore. We have to-day sent out samples of 250 tons of lead ore for sale on Thursday next.

**RUSSELL UNITED.**—J. Bray, Feb. 7: The lode in Matthew's shaft is 6 ft. wide, composed of quartz, capels, and prisms, yielding good stones of copper and munda; the indications in this shaft continue very good; I am daily expecting a further improvement. We shall commence to-morrow to cut beneath poles for putting the present lift into the cistern as it became heavy and troublesome, then sink on the shaft with another 6-in. lift. Nothing new to report at Stephen's shaft. In consequence of the heavy floods the water became a little troublesome, but the machinery has done its work well.

**SINCLAIR.**—W. T. Harris, Feb. 7: Waco shaft: In the 60 south the joint on which the cross-cut is being driven is now regular, and fully 2 ft. wide, with firm walls on the hanging and lying sides in easy ground, and yielding solid stones of lead. In the 40, in prospect, superior to anything yet seen in this driving; will send you samples of the lead if you think it desirable, and report to-morrow more fully. I am strongly of opinion Bagley Gwyn lode is now in close proximity. The 50 cross-cut north is making good progress, and the ground of an encouraging character. Sampson shaft maintains the same promising class of rock, and the lode is regular in its course, about 2 ft. wide, and a little lead is visible in the composition, the water keeps about the same.

**SOUTH CONDURROW.**—W. Rich, W. Williams, H. King, Feb. 6: We have communicated the winze below the 80 with the 93, east of King's shaft, and intend to push on the end east as soon as possible. The 80 east is worth 3s. per fathom. The stopes in the back is worth 10s. per fathom. The 80 east west of Plantation carries stones of tin. The ground in the 80 cross-cut north continues favourable for driving. The winze sinking below the 70 west is worth 6s. per fathom. The 70 east of King's yield low quality tinstone. The stopes in the back of this level is worth 10s. per fathom. The 60 east is worth 15s. per fathom. The 40 east is worth 12s. per fathom, and the stopes in the back is worth 12s. per fathom. The 40 east is yielding saving work for tin. The 30 west is unproductive. The 20 east is worth 2s. per fathom. The stopes in the back of the 20 fm. level is worth 15s. per fathom. The 42 east driving west of Marshall's shaft is worth 6s. per fathom. In the 54 west, the south branch being small, we have suspended operations on it, and set the men to take up the old drive on the north part of the lode. The 60 east is worth 6s. per fathom. The 40 east is worth 10s. per fathom. The 30 north to prove the north part of the lode at this level. The stopes in the back of the 60 west is worth 8s. per fathom. The 78 east is worth 6s. per fathom. The stopes in the back of the 78 east is worth 10s. per fathom. The lode in the 93 east is opening out wider, and yields saving work for tin.

**SOUTH DARRIN.**—John Mitchell, Feb. 7: The lode in the 130 east is still strong, and looks well; at present we are driving by the side of the lode; after stripping it down we will give value next week. In the 130 west the lode is not so strong, and has fallen off a little in value; it is at present worth 1 ton of silver-lead per fathom. The stopes in this level continue to look very well, and is worth 2½ tons of silver-lead ore per fathom. No. 1 stopes, in the 120 east, is worth 1½ tons of silver-lead and 1 ton of copper ore per fathom. No. 2 1½ tons, and No. 3 2 tons of silver-lead ore per fathom. No. 2 stopes, in the 120 west, is looking very well; worth 1½ tons of silver-lead and 10 cwt. of copper ore per fathom. No. 3 1 ton of silver-lead ore per fathom. No. 1 stopes, in the 110 east, is worth 15 cwt. of silver-lead and 10 cwt. of copper ore per fathom. No. 2 10 cwt. of silver-lead ore per fathom. A stopes in the 110 west is worth 1½ tons of silver-lead ore per fathom, and is getting longer as we go up. The tribute pitches are producing a fair quantity of ore. All work is being pushed on as fast as possible.

**SOUTH DEVON UNITED.**—W. Hooper, Feb. 7: The lode in Martin's shaft continues, I am pleased to say, its size, from 5 to 6 ft. wide, and worth 20s. per fathom; a most promising looking lode. The ground is all that can be desired for the production of copper ore, and all is being done to get it to the surface as little delay as possible, when levels will be commenced east and west forthwith, and from present indications we have every reason for believing that profitable ground will be laid open. The lode in the adit level, west of old stump shaft, continues to be fully 5 ft. wide, composed of gossan, spar, and stones of both munda and copper ore. We are busily engaged sending away copper ore for the sampling on Monday next, computed 250 tons. All the machinery on the mine working satisfactorily.

**SOUTH FENRUTIAL.**—S. Davey, Feb. 6: I am pleased to inform you I brought to surface this morning a stone from the north part of the lode in the 150 west end of Flatwood shaft, which I have just assayed, and find to produce 1 cwt. 3 qrs. 4 lbs. to the ton of tin. I shall have the whole of this part saved, and a parcel got to surface in the course of a week, when you shall have more particulars. Not yet struck the lode in the engine-shaft cross-cut.

**SOUTH TOLCARNE.**—Thos. Angove, Samuel Arthur, Richard Uren, Feb. 7: Fraser's lode. In the lode in the 80 east, west of engine-shaft, we have had an increase of water, and expect an improvement in the tin. The tin stopes in this part of the mine in the 70, 60, and 50, are producing about the same quantity of tin as last reported. The copper tribute pitches on the same lode are improved. We expect to sample about 70 tons for our next sale. The 50 cross-cut north to cut flat lode; we have no change.—Taylor's lode: In the winze sinking in the bottom of the 12 the lode is large and strong; worth 30s. per fathom.—Gossan lode: We are settling down to stopes the back of the 36 on a large scale, having a tramway completed from this point to the stamps. We have not driven far enough south in the 45 cross-cut to interest Taylor's lode; this end is being driven by six men.—North Tolcarne: We have some tin tribute working here which leaves a small profit—a very large tinny lode—but can only be wrought to the adit level at present.

**TAMAR.**—R. Goldworthy, Feb. 7: The lode in the 57 south is 4 ft. wide, producing saving work for silver-lead and 4 tons of fluor-spar per fathom; judging from its present appearance we may have a good improvement any day; this end has drained down all the water from the level above, which proves the lode to continue. The lode in the 27, north of the new shaft, is disordered by a slide at present. The stopes in the back of this level are producing their usual quantity of ore. No other change to notice.

**TANKERVILLE GREAT CONSOLS.**—Arthur Waters and Son, Feb. 7: Bog Mine: The mine is in fork to the 185 or bottom level. We have 21 pitches set to 65 men, at tributes varying from 50s. to 80s. for lead ore and 25s. to 35s. for blende; worth together 5 tons of lead ore and 9½ tons of blende per fathom. We have to-day sent out samples of 30 tons of lead ore and 40 tons of blende for sale on Thursday next.—Fennerley Mine: Warm Water lode: The rise and stopes above the 120 west are each worth 30 cwt. lead ore per fathom. The new shaft below the 93 is worth 2 tons per fathom. The 93, east of shaft, is in a lode 3½ ft. wide, producing good stones of lead ore. The new winze in the 93 west is worth 2½ tons per fathom. The two stopes in the back of this level are together worth 4½ tons per fathom. The winze in the 86 east is worth 25 cwt. per fathom. The stopes in the back of this level is also worth 25 cwt. per fath. Two pitches on the 84 cross-cut, by five men, at 100s. per ton, are worth together 22 cwt. per fathom.—Fennerley Pit: There are three pitches here above water-line, by five men, at 80s. to 100s. per ton; worth together 18 cwt. per fathom.—Tankerville Mine: The 244, east of Watson's shaft, and west of same, are together worth 3 tons per fathom. The 232 east is worth 2½ tons per fathom. The winze below this level, opposite the shaft, is worth 2 tons per fathom. The two stopes the bottom of the 220 east are together worth 3½ tons per fathom. The stopes in the back of the 220 east, on north lode, is worth 35 cwt. per fathom. There are four pitches at work by 14 men, at 5s. per ton; worth together 4½ tons of lead ore per fathom and 27 cwt. of blende per fathom.

**TREMBLO.**—E. Chevin, Feb. 6: According to the committee's instructions, I have suspended driving the ends at the 30, also the east and west ends at the 16, and the sinking of Derrick shaft. In the adit driving east by two men (instead of four) the lode is 2 ft. wide, worth 5s. per fathom. Have six men driving the 12, east of Pincock's shaft, in a lode 4 ft. wide, worth for tin 15s. per fathom. Have sent seven stopes to 23 men, the average produce of tin in these stopes being 35 lbs. per ton. Have also set four men at an average tribute of 7s. 4d. in 17, and three pitches to 10 men, at an average tribute of 10s. in 17; tributaries to receive 42s. per ton for tin, and no worth to be paid for below 25 lbs. of tin to a ton of tinstone. Have reduced surface labour about 45s. per ton.

**TRESAVEAN.**—J. Frisk, W. Edwards, Feb. 4: The shaftmen are engaged in cutting better pitches at the 125 fm. level, which will be completed this week, after which we shall commence to put the balance-bob in its place at the 75, so as to get it to work as soon as possible. There is no particular change in any of our copper pitches, but we have a few more tribute coming to work on tin on Caddy's lode. The 90-in. engine continues to work well.

**WEST CARADON.**—N. Richards, Feb. 6: We have had Jope's lode dilled from the 50 up to the 17, and which shows that this lode has been missed at the 17 for about 20 fms. in length, and if the air will permit we shall commence cross-cutting to-morrow and expect to reach it in 6 or 8 ft. from the starting-point. Gilpin's lode: The rise and stopes in the back of the adit level is yielding in the aggregate 35 tons of copper ore per fathom.

**WEST CREBOR.**—John Andrews, Feb. 6: The shaftmen are making good progress in sinking and cutting pit below the 80, and I hope in a week from this time we shall commence to fix the 8-in. drawing lift at this level, after which the sinking of the shaft below the 80 will be resumed in moderately easy ground. There is no change in the 80 west.

**WESTMINSTER CONSOLS.**—J. R. Woolcock, Feb. 1: We have made a further discovery since Wednesday in the bottom level; here the lode is 8 in. wide, composed of spar and lead ore, such as I sent to the office this week. I am now satisfied that the mine will turn out as well as was reported to us by the old man (who renewed his lease for over 40 years). In conclusion, I beg to state what I have done previously, that you have the best mining sett in this county.

**WEST GODOLPHIN.**—T. Hodge, Francis Hodge, Feb. 5: We shall be taking down the lode in the engine-shaft in a few days, and will report its value in our next; in the other bargains there is no change calling for remark.

**WEST GONAMBA.**—N. Richards, Feb. 6: The main lode in the adit level driving west of shaft is much the same as for some time past, being large, but the ground is rather larger for driving in. Nor is there much change in Gilpin's lode in the midway level driving east of main cross-cut, which, with together with the rise in the back of the same, produce 1 ton of copper ore per fathom.

**WEST HOLWAY.**—W. T. Harris, Feb. 7: In the 110 west the lode continues to yield nice stones of lead, and in appearance indicates a near approach to a

great discovery. In the 80 cross-cut, driving south, the ground contains more chert, and is evidently within a short distance of the lode. The cross-cut north is yielding occasional stones of lead, and no hanging wall yet visible.

**WEST KITTY.**—Wm. Vivian, Feb. 7: There is no change to notice in the mine since last week.

**WEST POLBRENN.**—Wm. Vivian, Feb. 7: We continue to make good progress in sinking the new engine-shaft. There is no change to notice in the other points of operation since last report.

**WEST VOR.**—S. Harris, Feb. 7: I am pleased to inform you that we have made fair progress in driving the adit level east of cross-cut on the Sozen lode, which is fully 5 ft. wide, producing low-quality tinstuff, a little copper, and very foul with munda, which I regard as very congenial for the production of large quantities of tin in depth, which was the case in the adjoining mine—Great Vor.

**WHEAL BASSETT.**—W. C. Trevena, Feb. 4: Setting Report: Lyle's engine-shaft to sink below the 170, by nine men and three boys, at 45s. per fathom; we still have the lode in the shaft, which is producing some rich tinstone, and hope in another month to have it the required depth for cutting pits for our next level. The 170 is driving west of cross-cut, by six men, at 10s. per fathom, where the lode is worth for tin 8s. per fathom; we are daily expecting an improvement here by cutting the rich shoot of tin driven through in the level above. There is a stopes working behind this end, by six men, at 3s. per fathom in a lode worth for tin 10s. per fathom. The 160, west of cross-cut, is driving, by six men, at 10s. per fathom, and lode worth for tin 12s. per fathom; we have two stopes in this level, working by 12 men, at 6s. per ton of stuff, and each stopes is worth for tin 12s. per fathom. In the 150, west of cross-cut, we have taken the six men from the end, and are sinking the winze below the level at 7s. 10s. per fathom, which is worth for tin 12s. per fathom. We have two stopes working in this level, by 12 men, at 6s. per ton for breaking, and each stopes is worth for tin 14s. per fathom. The 137 is driving west of cross-cut, by two men, at 9s. per fathom, and worth for tin 5s. per fathom. The 112 west is being driven by two men, at 9s. per fathom, and yielding saving work for the stamps; there are two stopes at this level, working by 10 men, at 5s. 9d. per ton of stuff, and each stopes worth for tin 10s. per fathom. During the past month we suspended several stopes and set them to tributaries. At present we have 50 tributaries working throughout the mine on tributes varying from 3s. 6d. to 13s. 4d. in 11 on a standard of 45s. per ton for tin. Our sale of tin for the last month was 20 tons 18 cwt. 0 qr. 18 lbs.

**WHEAL BENNY.**—Captain Cocking, Feb. 7: East of Engine-shaft the lode still continues to produce good work for the stamps. We have crushed several tons of tinstuff broken from this point, and this has turned out even more tin than I anticipated. I hope soon to have a good batch of tin ready for the smelters.

**WHEAL CREBOR.**—H. Phillips, P. D. Holman, Feb. 5: The lode in the 144 driving east of new shaft, is 2 ft. wide, yielding fine stones of good quality copper ore, and is apparently near the rich course of ore going down in the bottom of the 132. The lode in the 144 driving west of shaft will yield 7 tons of ore and 3 tons of munda per fath. This end is extended 20 fms. west of shaft, and when communicated with the winze in advance will lay open a fine section of stopping ground. The lode in the 144 driving east of western winze will yield fully 9 tons of ore and 3 tons of munda per fathom. The lode in the winze sinking below the 132 east of No. 2 winze will yield 7 tons of good quality copper ore per fath. The lode in the end driving east of winze will yield 2 tons of ore and munda per fath. The lode in the stopes in the back of this level will yield 10 tons of ore and 2 tons of munda per fathom. The part of the lode carried in the bottom of the 120 will yield 12 tons of ore per fathom. There has not been any lode taken down in the 48 driving east of shaft during the past week. The lode in the stopes in back of this level will yield 4 tons of ore and 4 tons of munda per fathom. All other points are without change.

**WHEAL SILVER AND LANTIGLOS.**—W. Bennetts: The 20 is driven north of engine-shaft about 6 fms., and I am most pleased to say that the lode has very much improved in the last 6 ft. driven. The part of the lode that we are now driving on is 5 ft. wide, 3½ ft. of which is chiefly apatite iron mixed with rich silver-lead ore. I have broken splendid ore in the end this morning, a box of which I will send up to-morrow. The lode in the 10 still maintains its value. We have commenced drawing, and soon hope to have a parcel for sale. I was never so much pleased with the appearance of the mine as I am at the present time.

**WHEAL UNY.**—Wm. Hamby, Wm. Prophet, James White, Feb. 7: Good progress is being made in sinking Hind's engine-shaft, which is now down 7 fms. 1 ft. below the 193. The character of the lode has somewhat changed in last 6 ft.; there is less carbonate of iron but more quartz and punch, with a little tin and capel; its yield for tin is much the same, varying from 28 to 30 lbs. of tin to the ton of stuff. The lode in the 193 west is worth 12s. per fathom; that in the stopes in the back of this level is worth 18s. per fathom. At the 182, just over the shaft, we commenced to cut in north across the lode; the part cut into produces saving work for tin. Judging from the stopes below the most productive part is yet to the north, which will be proved in about a week from this. The lode in the 182 west is worth 15s. per fathom. A stopes in the back is worth 18s. per fathom. The tribute pitches continue to yield their usual quantity and quality of tinstuff.

## Original Correspondence.

### FACTS OR FALLACIES.

SIR,—A pamphlet connected with Indian gold mining has lately appeared entitled "Gold Mining in the Wynaad; or, the Past, Present, and Future of Indian Gold Mines," and though endorsed "For private circulation only," has been pretty freely distributed. Its origin and purpose are so very pronounced that the signed introductory page is quite unnecessary. An air of frankness and sincerity, perhaps not real, pervades the whole 31 pages of which the little book consists, and it is evident to the most superficial reader that the author cannot help himself, and is irresistibly compelled to arrive at the conclusions drawn. The first 10 pages are devoted to the task of proving that the milling value of the Wynaad quartz cannot fall below 11 dwts. of gold per ton; in the next four pages the author contends that there should be in the Wynaad plenty of milling rock, which will average 11 to 12 dwts. per ton; while lastly, in the remaining half he maintains that the reason Indian gold mines have been as yet unremunerative is neither that there is insufficient gold in the quartz, nor is it that the quantity of quartz obtainable is too small, but instead we are informed that all the gold saving methods yet employed in India fail to extract a proper percentage of the auriferous contents of the stone. Unfortunately, however, the author has omitted to say by what means he would replace the processes now in use.

The writer of the memorandum commences by lamenting that so little is really known of these Indian enterprises. I can assure him if only he knew as much as some of us he would be quite contented not only with the amount of his knowledge, but also at the price at which he obtained it. Then he alludes to America as being "the cradle of gold and silver mining." May I remind him that the gold industry of Hungary, the Tyrol, &c., dates from a little before the discovery of the Comstock lode. Of course such a competent critic is quite able to tell us with whom the responsibility rests of the miserable state of affairs existing in the Wynaad at the present moment, and it is apparently with triumph that he writes "whether or not mistakes have been committed the shareholders have themselves in no slight degree to thank for it." Poor Indian shareholder, to be thus treated by the very creatures you have called into being is indeed a hard fate.

I might here say that of the six methods enumerated in the memorandum for amalgamating gold we have, first, the two at present employed more or less in India—1. Table amalgamation; 2. Amalgamation in pans, barrels, and arrastras. Then we have two methods totally unsuited for any place far removed from a smelting district; 3. Smelting with lead in blast furnaces; 4. Fusion with copper in the reverberatory furnaces. And finally we have the two processes, 5. Leaching; and 6. Chlorination, the disadvantage of which over the two first mentioned for treating the Indian quartz would be that the cost would be greater and the yield of gold less. And now, who is this new authority on Indian gold mines? Naturally, he must be a man of wide knowledge and mature experience; he has doubtless visited the Wynaad and investigated the technicalities of the subject in all its various and intricate surroundings; he has sifted matters to the utmost limits, and weighed every item of evidence for and against with the sternest impartiality; he has been supplied with all available information both at home and in India; he has been afforded unlimited facilities for examining all the crushing results as yet obtained; he has been permitted to sift the accounts as much as he might choose—in a word, everything possible, the accomplishment of which could assist him in arriving at the truth, and nothing but the truth, has been done. But, alas, in this case truth is, indeed, far stranger than fiction, for the author admits that he has never been "on the ground," and as for his information, his patron assures us in the introduction already referred to that it was felt advisable to leave him to procure the reports as best he might, and need I add, that the data which has led to such bitter disappointments—the result of assays given in Mr. Smyth's report—is that which is assumed to be reliable and applicable to the reef quartz of the Wynaad.

But now, Sir, is it not time that glowing "results on paper" ceased? What are the absolute facts of the case? Is it a fact that any of the quartz reefs yet found in India average 11 dwts. of gold per ton. Of course specimen samples may. Is it a fact that there is "plenty of milling rock in the Wynaad which will yield in the mill 7 to 8 dwts. of free gold per ton, irrespective of a loss in working of 4 dwts.?" To such queries there is the following answer:—Men from the School of Mines, practical miners from Australia, America, and England, and practical millmen from the three countries, as well as a cluster of scientific and able men, have devoted from two to three years of their time to the examination and treatment of the Wynaad quartz, and each and all have signally failed to furnish any substantial and satisfactory results. There is unquestionably gold in the Wynaad quartz, but in most of it not enough to defray even the cost of milling it; and even the pamphleteer, assertive as he may be in the blindness of an egotistic faith, cannot "work the work" of getting through any fallacious reasoning, or the mere dogmatism of others, 11 dwts. per ton of quartz if it only contain 3 dwts. or less.—Feb. 8. WYNAAD MINER.

## THE TRANSVAAL GOLD FIELDS.

The Spitzkop correspondent of the Cape Argus, under date Dec. 20, writes that had gold never been discovered there in course of time the country must have become peopled. Rich soil and a plentiful water supply must have drawn to it a large farming population. From out the boulder strewn creek at Pilgrim's Rest, the terraces of Waterfall, the rotten reefs of Graskop, the slopes of Macamac, the leaders of Spitzkop, and the steep sides of Ross Hill very large quantities of gold have been unearthed, and infinitely greater quantities await the hands of the miner. All the gold I have spoken of, he continues, has not been the result of heavy investments, powerful machinery, and the other modern aids to successful mining, but of quiet unobtrusive work by men who had in most cases but a few pounds to commence with, and the most primitive appliances at their command. It needs no prophet, he thinks, to foretell that ere long every valley and hill will resound to the dull thud of the stampers, or echo the sharp hiss of the hydraulic hose. He believes the Lydenburg gold fields will be second to none. From Pretoria (Jan. 8) it is reported that there have been large finds of alluvial gold and new discoveries of rich reefs at the De Kaap gold fields. In one week 16 lbs. of gold was collected by one digger. On the hills to the east of De Kaap Valley an exceedingly rich reef has been discovered, with a well defined outcrop two miles in length; depth unknown. Splendid specimens of gold-bearing quartz and of heavy nuggets are being exhibited at Pretoria. One nugget of 13 lbs. weight has been found at the Jamestown digging just below the Berlin plateau. There are 50 diggers there, and all doing well.

Now, that there is plenty of gold in the Transvaal as in many other districts has never been denied; but it is not forgotten that the "tall mountains, gentle fertile valleys, and murmuring streams, which form the most prominent features of the gold fields district," are alleged to exist only in the poetical imagination of the would-be vendors to British capitalists. The questions raised, and that which have certainly not been answered in favour of the Transvaal, are—Does water exist on the Transvaal gold fields in such abundance that hydraulizing could be carried on? Are there any such streams as those which the Ditch companies of California and the adjoining States consider necessary in order to undertake the supply of water for hydraulizing purposes? It is well known that the rivers of which these mountain streamlets form tributaries—the Vaal, the Oliphant, or the Limpopo—are themselves of insignificant size estimated by the water flowing through them during the greater part of the year; and hence it is asked—Has not the average supply of water in the springs been grossly exaggerated? It is not forgotten that in the case of the Indian gold mines specimens of quartz were shown in London as the produce of them, and that no quartz of even similar character has since been obtained from India. It is believed that whilst the gold in the Transvaal is sufficiently abundant to remunerate individual miners, it is so disseminated that it cannot be profitably worked by even local companies, much less by monstres concerns which are so overloaded with free shares that each 17. expended has to earn dividends on 51. nominal capital, or, in other words, that if the mine yield 10 per cent. profit on the companies' cash capital there would be scarcely 1 per cent. for the shareholders after payment of directors and staff expenses. Success in the Transvaal is much to be desired, but to ensure it companies must be formed on an entirely different basis.

**GAS SHARES.**—The principal business in these shares, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, has been:—Bahia (Limited) Ordinary, 22 to 23; Bombay (Limited), 6½ to 6¾; British, 41 to 41½; Buenos Ayres New (Limited), 10½ to 10¾; Commercial Consolidated, 245 to 246; ditto New Stock, 187½ to 187¾; ditto 4½ per cent. Debenture Stock, 111; Continental Union (Limited) Ordinary, 33½ to 33¾; ditto, ditto, New, 1869 and 1872, 23¼ to 23½; ditto, ditto, 7 per cent. Prof., 22½; European (Limited), 19 to 20; ditto New, 3¾; Gas Light and Coke, A. Ordinary, 204 to 207; ditto, D. 10 per cent. Prof., 227 to 227½; ditto, H. 7 per cent. Maximum, 144 to 144½; ditto, J. 10 per cent. Prof., 224 to 224½; Imperial Continental, 189 to 190½; Monte Video (Limited), 16 to 16½; People's Gas Light and Coke of Chicago, First Mortgage 8½ per cent. Sterling Bonds, 88½; ditto, ditto, Second Mortgage Bonds, 72½; Rio de Janeiro, (Limited), 24 to 24½; South Metropolitan, A, 252 to 256. Gas stocks easier after the late rise. South Metropolitan maintain their price, the company having notified a reduction in their charges.

**INSURANCE SHARES** have, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, been dealt in as follows:—Alliance British and Foreign, 33½ to 33¾; City of London Fire (Limited), ¼; Commercial Union, 18½ to 18¾; Employers' Liability Assurance Corporation (Limited), 2½; Fire Insurance Association (Limited), 1½; Globe Marine (Limited), 1¼ to 1½; Imperial Fire, 13¼ to 13½; London, 56½ to 56¾; London and Lancashire Life, 3; London and Provincial Fire (Limited), ¼; London and Provincial Marine (Limited), 4½; Marine (Limited), 27 to 27½; Merchants' Marine (Limited), ¾ to 1; North British and Mercantile, 25¼; Oceanic Marine, 5½ to 5¾; Phoenix, 22 to 22½; Rock Life, 8¾; Royal Exchange, 390; Universal Marine (Limited), 47 to 47½. Insurance steady; marine companies a little easier upon realisation.

**TRAMWAYS.**—The closing prices of this evening's, as quoted by Mr. Wm. Abbott, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

**RAILWAY AND GENERAL MARKETS.**—Referring to the course of business done to-day during official hours (11 to 3) Mr. Ferdinand R. Kirk Birch-lane, writes:—Opening: Operators cling to Unified, disregarding both political and financial considerations, and the bonds are ¾ higher, at 67. Mexican Railway stock is very flat, at 55½, being 1 down; and Atlantic First Mortgage have fallen ¼; some large account, it is thought, is being closed in these two. Trunks are rather lower on sales, to secure a part of yesterday's important rise. The Ordinary are 15½ to 16, and the Thirds 37½ to 37¾. Brighton, A. are just par, and Great Eastern can still be bought at 58. The highest reached last year was 78. During the week a further decided advance has been established in Old Shepherds, East Wheel Rose, and Home Mines Trust. Shares continue scarce and in demand. Bratsberg, 1½ to 1½; Wheal Crebor, 1½ to 2½; Old Shepherds, ¾ to ¾; East Wheel Rose, ¾ to ¾; Home Mines Trust, 1½ to 1½; South Caradon, ¾ to ¾; Orita, ¾ to ¾; Victoria Gold, ¾ to ¾; Tincroft, 4½ to 5; West Kitty, 12½ to 12¾. Clonay: The tone has been steeper since the opening. Trunks being specially firm. The Ordinary are 16. Seconds 38, and Thirds 35. Brighton A have risen ¾, but no recovery has taken place in Mexican Ordinary, and now the stock is 2 down. United Mexican, 9 to 9½; Emma, ¾ to ¾; Mason and Barry, 11½ to 12½; Rio Tinto, 19 to 19½.

**GOBBETT TIN MINE.**—Arrangements are being made for putting up at this mine a large water-wheel and a powerful battery of stamps, so that the first parcel of tin may be expected in about four months, because the lode, which is productive close to surface, will soon be cut at 15 fathoms deep. The water is increasing in the end and the ground changing colour, showing that we are in close proximity to the lode.

**COLONIAL ARCHITECTURE.**—Most of the private residences in the cities and towns of New South Wales are provided with spacious balconies and verandahs, imparting a sense of enjoyment which invariably strikes a visitor fresh from England. The balconies are strong substantial affairs, the ironwork being made in the Colony.

**HOLLOWAY'S PILLS.**—"Let good digestion attend on appetite." Holloway's pills are universally acknowledged to be the safest, speediest, and best corrective for indigestion; loss of appetite, acidity, flatulency, and nausea are a few of the inconveniences which are remedied with ease by these purifying pills. They strike at the root of all abdominal ailments, they excite in the stomach a proper secretion of gastric juice, and regulate the action of the liver, promoting in that organ a copious supply of pure wholesome bile, so necessary for digestion. These pills remove all distention and obstruction, and from their harmless composition, are peculiarly well adapted for delicate persons and young children; they expel impurities, strengthen the system, and give muscular tone.







Drakewalls, 5s. 6d. to 6s. 6d.; a full report from the mine appears in another column. It will be seen that the rise in back of the 40, west of engine-shaft, is producing good tin stuff. A number of tributaries have been put on, and the various points of operation are being well pushed forward.

Home Mines Trust have advanced 1-16th, closing  $\frac{1}{4}$  to 1, on the statement that they have secured several highly remunerative contracts which will still further largely augment the half-year's profits.

Kit Hill Consols,  $\frac{1}{4}$  to  $\frac{1}{2}$ ; good progress is being made in driving the tunnel level and sinking the north engine-shaft; the lode in the 88 level is 5 ft. wide, and showing well for mineral.

Old Shepherds have advanced  $\frac{1}{4}$ , closing 13-16ths to 15-16ths, with a strong upward tendency. The shares are scarce, and on the attempt of the "bears" to cover speculative sales a further decided advance is anticipated. Any further discovery would still further increase the excitement. The shares are decidedly scarce.

South Devon United,  $\frac{1}{4}$  to  $\frac{1}{2}$ ; the managers report that the lode in Martin's shaft continues to show a width of from 5 to 6 ft., and is worth 20% per fathom, with promising indications of further good discoveries. The sampling of copper ore on Monday next will be about 260 tons.

South Frances,  $\frac{1}{4}$  to  $\frac{1}{2}$ ; and the mine said to be looking better. Pascoe's shaft is worth for 12 ft. long 35% per fathom. The 236 west presents a good appearance, and is worth 20% per fathom. The four stopes are worth together about 73% per fathom. A winze sinking below this level is worth for 12 ft. long 35% per fathom. A contract has been made to complete 20 fms. below the 185 in Marriott's shaft.

Asia Minor,  $\frac{1}{4}$  to  $\frac{1}{2}$ , and enquired for; the agents' report that the output for December was 137 tons of ore, and the produce of the dressing-floor 66 tons of dressed ore. Improvements are being made at the dressing-floors, and good progress is reported throughout the underground workings.

California Gold, 9-16ths to 11-16ths; Last week's mill run received on Saturday was 460 tons, yield 900%. The mill run this week, received on Thursday, was 500 tons, yield 800%. In the report received this week it is stated that "the lode in the 1500 ft. level carries pay ore 10 ft. wide. No returns for smelting ore have been received during the past three weeks, in consequence of the severity of the weather, as a portion of the ore which goes to the smelting-works comes from the mill in the form of concentrates, and cannot be shipped in a frozen state."

Ruby and Dunderberg,  $\frac{1}{4}$  to  $\frac{1}{2}$ ; no change of moment is advised in the weekly reports on the Home Ticket Mine. The outrun of ore for the week was satisfactory, amounting to 126 tons. The usual amount of tribute work was being carried on at the Dunderberg. The telegram received last Tuesday advises heavy snow at Eureka, which had prevented any ore being sent down from the mine during the week.

In Lead Mine Shares there has been no change worthy of note. The price of the metal continues so low that animation in the shares can scarcely be expected. Vans are quoted,  $\frac{3}{4}$  to 4. Roman Gravels,  $\frac{1}{4}$  to  $\frac{1}{2}$ ; the lode in the 110, south of new engine-shaft, is 4 ft. wide, worth 4 tons of lead ore per fathom, and the 80 south is in a lode 6 ft. wide, worth  $\frac{3}{4}$  tons per fathom. Other points as before; 250 tons of lead ore have been sampled for sale on Thursday.

Tankerville Great Consols,  $\frac{1}{4}$  to  $\frac{1}{2}$ ; 30 tons of lead ore and 40 tons of blende have been sampled, for sale on Thursday next. In the Tankerville part the 244, east and west of Watson's shaft, is worth together 3 tons per fathom. Two stopes in the bottom of the 220 east are worth together  $\frac{3}{4}$  tons. The four pitches are worth  $\frac{1}{4}$  tons of lead ore per fathom and 27 cwt. of blende. In the Bog Mine there are 21 pitches, worth together 5 tons of lead ore and  $\frac{1}{4}$  tons of blende per fathom.

The Panulillo Copper Company have declared an interim quarterly dividend of 2s. per share, free of income tax, which will absorb 5000% of the estimated balance of 15,429% to be dealt with at the annual meeting in May next. The warrants will be posted Feb. 20.

The Staveley Coal and Iron Company have declared an interim dividend of 30s. per share on the A and C shares, and 5s. per share on the B and D shares, as compared with 40s. and 8s. 6d. respectively in January last year.

The Consett Spanish Ore Company have resolved to pay an interim dividend of 1s. 6d. per share on Feb. 15 to members registered in the company's books on Feb. 7.

The Wrexham, Mold, and Connah's Quay Railway Company announce the payment of the interest to Dec. 31 upon the Four per Cent. A Debenture Stock of the company, and  $\frac{3}{4}$  per cent. upon their B Debenture Stock to the same date.

The Council of Foreign Bondholders notify that they have been requested by the Council of Administration of the Ottoman Public Debt at Constantinople to exchange for all holders who are unable to do so satisfactorily for themselves the fractional certificates of registered stock against registered bonds of the corresponding loans, bearing the overdue coupons.

Messrs. C. de Murrieta and Co. notify that the scrip of the debenture stock of the Buenos Ayres and Pacific Railway Company will be ready for delivery in exchange for letters of allotment and bankers' receipts on and after Feb. 7.

Telegraphic advice has been received by the London branch of the Australian Joint-Stock Bank of the declaration at Sydney of a dividend and bonus equal to 12 $\frac{1}{2}$  per cent. per annum for the half-year ended Dec. 31, 1883; 10,000% has been added to the reserve fund, which now stands at 220,000%.

The Phosphor-Bronze Company held their meeting to-day, when the directors reported that the trade of the company during the past year, although greater in extent as regards sales than in any previous year, show a relatively smaller profit. This result is attributable to various causes, among which is the fall at the end of the year in the value of copper and tin, thus making a proportionate reduction in the estimate of the company's stock. Should, as is probable, an advance take place in the prices of these metals, the benefit to the company in the enhanced value of its stock will be appreciable in the next balance-sheet. Patents have been secured for Mr. Welles' first invention and subsequent improvement in the manufacture of silicium-bronze in India, Canada, Cape Colony, Victoria, South Australia, New South Wales, Western Australia, Queensland, Tasmania, and New Zealand. The silicium-bronze telephone wire has already acquired the title of "the telephone wire of the day," and its sale is extending rapidly. The British Post-Office, some of the Colonial telegraph administrations, and various railway companies, are making practical trials with silicium-bronze telegraph wire overhead lines, and the general opinion among electricians is that wires of this description will ultimately replace the cumbersome iron wires at present in use. The phosphor-bronze steam launch has been satisfactorily disposed of to an African trading company, and it is not unlikely that when the superior qualities of phosphor-bronze plates (particularly as regards resistance to the corroding action of bad water) are better appreciated, the metal will be largely adopted for the hulls of small steam craft. The directors recommended a dividend at the rate of 2 per cent. per annum, free of income tax, less the interim dividend of 5 per cent. paid in July. This leaves a small amount to carry forward on profit and loss account, which it would be desirable to write off the purchases account.

**GOLD AND SILVER.**—Messrs. PILLEY and ABELL (Feb. 7) write: The enquiry for gold bars has somewhat fallen off, but more sovereigns, to the value of 100,000%, have been taken from the Bank for Australia. A small shipment of 5000%, sovereigns, from Spain, has been sent to the Bank. The arrivals have been very small, comprising only 2276%, from Buenos Ayres. The Don has taken 4410% to the West Indies; Bolivia has taken 10,000% to Bombay; Sorata has taken 100,000% to Australia; 114,410% to the silver market has been very steady at 51d. per oz. during the week, the orders being almost entirely for the East. The arrivals have not been very large, and are only 23,000% from New York, and 4096% from Buenos Ayres. The P. and O. steamer has taken 100,000% to Bombay. The Aconcagua, from Chile, may be expected to-morrow at Liverpool with 40,000%. The quotations for bullion are:—Bar gold, fine, 77s. 9d. per oz. standard; bar gold, containing 20 dwts. silver, 77s. 10 $\frac{1}{2}$ d. per oz. standard; Spanish doubloons, 73s. 9 $\frac{1}{2}$ d. to 73s. 10d. per oz.; United States gold coins, 76s. 3 $\frac{1}{2}$ d. per oz.; Bar silver, fine, 51d. per oz. standard; bar silver, containing 5 grs. gold, 51 $\frac{1}{2}$ d. per oz. standard; cake silver, 55d. per oz.; Mexican dollars, 49 $\frac{1}{2}$ d. per oz. last price; quicksilver, 5s. 5d. Discount, 3 per cent.

**BRATSBURG.**—It is understood that the accounts show, subject to audit, a balance of profit sufficient to pay a further dividend for the past year. The dividend paid for the first six months was at the rate of 6 per cent. This must be considered satisfactory for a young company, and before its machinery is erected. The general meeting is about to be called, and has been delayed only through the severe illness of one of the managers, who was coming over to attend it. This, of course, also prevented Captain Daw himself being absent

from the mines. Advice up to the 2nd inst. state that the dressing of ore and all other operations were going on satisfactorily.

**OSCAR GOLD MINING COMPANY.**—The letters of allotment were posted on Thursday evening. A telegram was received from Norway the same day stating, "Further discoveries at Oscar." Every exertion will be made to send out and erect machinery. The short distance from England, the easy access to the mine, the abundance of labour on the spot, &c., are great and unusual advantages possessed by this company.

**KIMBERLEY CENTRAL DIAMOND MINING COMPANY.**—A meeting of the shareholders will be held at the London offices on Friday next, Feb. 15, when most interesting and satisfactory reports and accounts for the last half-year will be submitted. The capital account shows a total of 681,200%, and the reserve fund is 1800%, being dividends on 600 shares reserved. The profits of the year amount to 253,734%, being 143,683% for the first, and 110,050% for the second. Out of the profits of the first, 31,543% have been absorbed by dividends for the six months, leaving a balance of net profits available for working operations in the second half-year. The profits for the six months which expired in October last (110,050%) will also provide for a second dividend in the year, and leave a handsome balance to strengthen the general cash account. The stock of diamonds on hand is valued at 6349%, and the "blue" on the floors at 17,825%, these two assets alone amounting to 24,174%. Considering the depression which has prevailed throughout the entire district, and the particular difficulties of the company arising from strikes, a fall of reef, and serious fluctuations in the prices of diamonds, these results will be accepted with satisfaction by the shareholders, as they certainly reflect great credit on the management. The directors have contracted for hauling 50,000 tons of blue, and estimate that when their contract shall be completed they will have at hand at least three times that quantity more.

**WHEAL SILVER AND LANTEGLOS.**—From the report which will be found on another page it appears the Great lode has improved considerably in the 20 fm. level; and, seeing this has an extensive run not only in Wheal Silver and Lanteglos, but also through East Treburgett, it is considered to be a most important matter. It is reported that a large number of shares have changed hands at improving prices during the past few days.

**POLBERRO, ST. AGNES.**—It is reported that this property has been inspected by and reported on by Capt. Bennetts, of Penhalls, and Capt. Stephen Davey, late of Wheal Kitty, and it is stated that Capt. Vivian, of West Kitty, has accepted the management at the earnest request of the shareholders, and that London offices have been established. Carefully prepared and well-authenticated plans of the mine are ready, and opinion is decidedly in favour of the venture. It is assumed that the management of Polberro will be practically the same as that of West Kitty.

**OLD SHEPHERDS MINE.**—The upward movement noted as having set in last week has continued through this week and Old Shepherds shares have again doubled in price. So far as we can gather the reasons for this rapid rise are—1. There was an extensive "bear" account open. 2. The mine is forked below the 100, and it is well known when the 110 is reached riches which have not been dreamed of by the present generation of miners will be found here. 3. It is stated that the western part of this extensive property has been sold at a price which will give a large bonus to the present shareholders, and, further, the north portion of the property is on the point of being sold, which will give another substantial bonus to the original shareholders, so that those who are fortunate enough to hold the shares now may look forward to a bright future.

**NEW COOK'S KITCHEN.**—At the meeting on Feb. 2 (Mr. W. Pike in the chair), the accounts showed a loss on the 16 weeks' working of 1037%, and a total debit balance of 2667%. A call of 5s. per share was made. Mr. Basset has voluntarily remitted dues for 12 months.

### ALIANZA DE CICAPRA GOLD MINING COMPANY, VENEZUELA.

SHARES AND COUPONS OF THIS COMPANY FOR SALE.

Apply to DE ROJAS BROTHERS AND CO., Nos. 24 AND 26, BASINGHALL STREET, E.C.

MINING OFFICES, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

ESTABLISHED UPWARDS OF FORTY YEARS.

**MESSRS. WATSON BROTHERS**, in referring to their public Circular in the *Mining Journal*, would also observe that they BUY and SELL SHARES at the net market prices of the day in all well-established and respectable Mining Companies; also in English and Foreign Funds, Railway Stocks, &c.

**WESTMINSTER CONSOLS (LIMITED).**

CHAIRMAN.

Lieut.-General W. WARREN ANDERSON.

The January dividend has been paid. 1 dividend of 10 per cent. guaranteed for six months, payable July, 1884.

Messrs. DRUMMOND, THOMAYNE, and Co. have SPECIAL BUSINESS in the above.

25, Queen Anne's Gate, Westminster, S.W.  
Bankers: London and County Banking Company (Limited), S.W.

RECTORS.

**WANTED**, a COMPETENT MAN, to SUPERINTEND the ERECTION of a LARGE CORNISH PUMPING ENGINE, and heavy pumpwork.

Apply, stating wages required, and when at liberty, to "Box 7," MINING JOURNAL Office, 26, Fleet-street, E.C.

REDUCTION OFFICER.

**WANTED**, to proceed to West Africa about March next, a thoroughly qualified person to perform the duties of REDUCTION OFFICER, and to TAKE CHARGE of a GOLD MINE in full work during the absence of the Manager.

Apply by letter, stating terms and previous experience (copies only of testimonials), to "A. K. O.," 8, Birch-lane, E.C.

**WANTED**, for the Continent, a FOREMAN, skilled in the MANUFACTURE OF SHOT. Preference will be given to one who is also competent to take charge of Sheet and Pipe Machinery.

Application to be made to Messrs. BOWES, SCOTT, and READ Broochambers, West

IMPORTANT TO CAPITALISTS, INVESTORS, AND OTHERS.

THREE HUNDRED PER CENT. PROFIT.

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WESTERN ANDES and CORPORATION SOUTH AUSTRALIAN COPPER certain to have a great rise.

TOLLIMA (Great Dividend Mine).—Can buy any number of A and B at present prices. Shares certain to rise to over £10 in a short time. Full particulars only to bona fide investors.

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Assays and Analyses of Ores of Copper, Iron, Zinc, Lead, Silver, Gold, &c. Iron, Steel Clays, &c.; executed on reasonable terms.

Mr. Bowen having during the last 15 years held responsible situations as Chemist and Assayer to several of the most important and various of the Metallurgical Industries carried on at Swansea, feels assured that any work entrusted to him will give every satisfaction.

**SECRETARY-MANAGER.—RE-ENGAGEMENT WANTED** by a

Gentleman thoroughly conversant with Mining and Smelting Accounts, and could undertake the Management of a Manufacturing Concern. Has travelled for years in England and Scotland for a Public Company. Highest references. Salary moderate.

Address, "S. W.," care of Messrs. Bates, Hendy, and Co., 37, Walbrook, E.C.

**GERMAN METALLURGIST** living in England, well-experienced in the Management of Lead and Spelter Works and Blast Furnaces, is OPEN to an ENGAGEMENT. Has been engaged in Spain for some years with a large English Copper Company, and in Silver-lead Smelting, and would not object to go abroad again. Speaks English, French, and Spanish.

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Can SELL the following SHARES:—

|                          |                         |                        |
|--------------------------|-------------------------|------------------------|
| 40 Akankoo, fully paid.  | 40 Eberhardt.           | 10 Panulillo.          |
| 50 Akanda.               | 40 East Blue Hills.     | 50 Port Phillip.       |
| 25 Birdseye Creek.       | 30 East Rose.           | 40 Prince of Wales.    |
| 0 Bratsberg.             | 25 Frontino.            | 60 Potosi.             |
| 100 Colombian Hydraulic. | 20 Home Mines Trust.    | 25 Ruby.               |
| 40 California Gold.      | 10 Leadhills.           | 10 Richmond.           |
| 75 Corporation of South. | 35 La Plata.            | 10 Roman Gravels.      |
| Australian Copper.       | 40 Lisbon-Berlyn.       | 20 South Darren.       |
| 50 Callao Bla.           | 50 Mounts Bay.          | 50 Tankerville.        |
| 30 Chile Gold.           | 20 Montana.             | 15 Tolima A, ex. div.  |
| 60 Chontales.            | 75 Nouveau Monde.       | 20 do B.               |
| 25 Colorado.             | 20 New Emma.            | 10 United Mexican.     |
| 25 Carn Camborne.        | 25 New Trumpet Consols. | 10 Wheel Orebore.      |
| 10 Devon Consols.        | 40 New West Caradon.    | 20 Western Andes Gold. |
| 50 Devon Friendship.     | 50 Old Shepherds.       | 40 West Callao.        |
| 20 Drakewalls.           | 20 Organos.             |                        |

**VICTORIA GOLD (Venezuela).**—I strongly recommend the immediate purchase of these shares for an important rise; also CORPORATION OF SOUTH AUSTRALIAN COPPER.

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Sharedealers finding that advertising had a prejudicial effect to their clients' interests, owing to deceptive prices being quoted, have, with the full approval of the Editor of the MINING JOURNAL, agreed to cease the insertion of such prices.

Mr. TAYLOR will, however, be glad to receive the customary letters from Cor. respondents, and is, as heretofore, prepared to deal in all classes of Mining and Miscellaneous Shares at very close prices either for cash or the account.

Mr. TAYLOR begs to warn his clients against dealing in prices quoted in Daily Lists sent out by some dealers, too often in order to mislead.

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**LEAD ORES.**

| Date.               | Mines. | Tons.   | Price per ton.         | Purchasers. |
|---------------------|--------|---------|------------------------|-------------|
| Jan. 29—Pierrefitte | 70     | £10 3 0 | Quirk, Barton, and Co. |             |
| Feb. 8—South Darren | 45     | 12 2 0  | Panther Lead Co.       |             |
| —Pandora            | 50     | 7 2 6   | Quirk, Barton, and Co. |             |

**BLLENDE.**

| Date.          | Mines. | Tons.   | Price per ton.   | Purchasers. |
|----------------|--------|---------|------------------|-------------|
| Feb. 8—Pandora | 50     | £2 13 6 | Swansea Vale Co. |             |



## ROYAL MINING ACADEMY AT CLAUSTHAL (GERMANY).

72ND SCHOLASTIC YEAR, 1883-1884.

The PRACTICAL PREPARATORY COURSE and the LECTURES of the SUMMER HALF-YEAR will COMMENCE 24th APRIL, 1884.

Programmes to be had (gratis) of The Director—

BERGRATH DR. V. GRODDECK.

## VICTORIA GOLD COMPANY (LIMITED).

Investors have now the opportunity of SECURING SHARES in this Property, with the following advantages:—

- 1.—Machinery, stamps, &c., are now on the Mine, and paid for.
- 2.—Victoria will soon be returning gold bars.
- 3.—Investors purchasing Shares in this Company will not have to wait a year or two before the Mine begins to make returns; they will join, in fact, a going concern, fitted with plant for stamping.
- 4.—The capital is much smaller than most of the Venezuela Mines, consequently the dividends for the shareholders must be proportionately higher.
- 5.—The Mine possesses immense advantages in water power and forests of timber, which can be used as fuel at a cheap rate—in fact, Mr. Danby, the engineer, has stated that the water power in Victoria is of itself equal to a mine in value.
- 6.—All authorities say that Victoria is situated in the richest district of that rich gold-bearing country.

## VICTORIA GOLD COMPANY (LIMITED)

is stated to be as rich, if not richer, than El Callao. It is reported to be in a richer district.

The El Callao shares are at fabulous prices—one half share equal to about £400 being worth more than £40,000, and the profit to the holder produces about £5000 per annum.

The outcrop alone on the Victoria is estimated to be above 450,000 tons, and to yield  $1\frac{1}{2}$  to  $2\frac{1}{2}$  ozs. per ton—1 ton of the outcrop was received from the mine last year as a sample, and assayed by Messrs. Johnson and Matthey, the Assayers to H.M. Mint and the Bank of England, to contain the extraordinary amount of 8 ozs. of gold.

## VICTORIA GOLD COMPANY (LIMITED)

in consequence of this immense outcrop—will be able to work cheaper than any other mine yet known in Venezuela, because no sinking of shafts (always a very costly operation) will be necessary for a great many years to come.

Mr. Danby states that Victoria must become the richest Gold Mine in the world.

## VICTORIA GOLD COMPANY (LIMITED).

Vice-Admiral R. Ashmore Powell, C.B., one of the directors, has visited the mine. He has telegraphed to the Board as follows:—“Mine exceedingly rich.”

El Callao pays dividends now at the rate of above 1200 per cent. per annum.

Victoria is considered equal to El Callao.

Full particulars of this extraordinary Property, which is now in a position for active work and profitable returns, together with reports up to date, will be sent post free on applying to

S. POWELL AND CO., Gracechurch Buildings, London, E.C.

## Notices to Correspondents.

LADYWELL MINING COMPANY.—Mr. Arthur Waters, of Shrewsbury (Dec. 7), writes expressing the hope that his name will not again be mixed up with reports and statements made by a few shareholders in the above company. There will, he continues, “no doubt be a proper time and place to deal with the questions at issue, but until then you have no right to use my name in the way you have done.” We do not recollect to have recently mentioned Mr. Waters’ name at all; he will, therefore, oblige by stating to what he alludes.

GOLD AMALGAMATION.—In my letter of last week—on 45th line, page 135, for “amalgamation” read “amalgamator,” and again on page 139, line 26, for “washing” read “wasting.”—M. PARKY GOSSET.

ANKNOO.—It is an agreeable surprise to myself, after the attacks that have been made on Mr. Lane’s management of the above mines, to see that Mr. Harvey gives such a hearty general approval of what Mr. Lane has accomplished. I am sure the directors would be doing us a great favour if from time to time, as they receive reports from Mr. Lane, they would communicate any little portion that would be interesting to the shareholders to your paper, as it is evident they have nothing to hide, and news is very acceptable to—C. J.: Eccles, Feb. 5.

WHEAL BULLER.—Can any correspondent put me in the way of obtaining a list of the shareholders from January 1852 to 1855 in a tin mine called Buller or Wheal Buller, near the village of Redruth, in Cornwall.—J. A. S. W.

MINING QUOTATIONS AND CIRCULARS.—I have subscribed to the *Mining Journal* for several years, deriving considerable information from its columns. As regards quotations made by several of the mining companies, however, I find they are not always reliable. For instance, in last week’s *Journal* you state Devon Great Consols,  $4\frac{1}{2}$  to  $4\frac{3}{4}$ ; I try to sell, but on the London Stock Exchange find the price  $3\frac{1}{2}$  to  $4$ . Devon Great United you quote  $\frac{1}{2}$  to  $\frac{3}{4}$ , whilst  $\frac{1}{2}$  to  $\frac{3}{4}$  is the price made, at which real business can be done. I do not know where you get your information from, but you would be doing a good service to the unwary public if you would protect them from the many doubtful prices and properties which are constantly being thrust upon them by means of touting circulars, which in many cases are of a most unreliable character. What do you say to this. A circular arrives enclosing a telegraph form advising the immediate purchase of shares in a certain mining property at the price of 15. Is. 3d. On enquiry I find the shares can be purchased on the London Stock Exchange for about 12s. Public beware, is the advice of—J. M. F.: Glasgow, Feb. 7.

Received.—“R. F. M.”: Inserted.—“J. G.” (the first initial is utterly illegible): The proposition could not be entertained at present.—“C. E. H.” (Meersbrook): Complied with.—“T. J.” (Junior Carlton Club): Answered by post.—“J. C.” (Eccles): The charge for the advertisement of New Terras will vary according to the form in which it is inserted.—“T. N.” (Chester): The pamphlet has been addressed as you desire.—“J. C.” (Liverpool): We have forwarded you a *Journal* of the date required to answer your letter.—“W. A.” (Ilfracombe): The change was made on the initiative of capitalists.—“J. B. R.”—“Mil Desperandum” (Bosna Grande): As to whether rights are maintained, even assuming the mines to be identical, would depend upon whether the Brazilian law has been complied with. The railway will benefit everyone.—“W. B.” (Cardiff).

# THE MINING JOURNAL,

## Railway and Commercial Gazette.

LONDON, FEBRUARY 9, 1884.

### PROPOSED SCIENTIFIC AND TECHNICAL COLLEGE FOR WALES.

The importance and necessity of establishing a scientific and technical college in the great mining and metallurgical district of South Wales is becoming more and more apparent, and the demand for Government aid in furtherance of the object becoming louder and more pronounced. The Government has already recognised, to an extent, the claims which Wales has upon the Imperial funds for educational purposes, having made grants of 4000*l.* per annum to both North and South Wales. Cardiff has been selected as the site for the College for South Wales, and that institution is already in active operation, with a most efficient staff of professors and teachers, the old infirmary premises having been utilised as the temporary locale of the College. Wrexham has been selected as the site for North Wales, and special efforts are being made to secure the necessary premises as a college. But it is generally admitted that both these places are far too remote from the great centre of the metallurgical manufacturing to afford the students that practical education in the works which is so desirable and essential. Swansea has long since been recognised as “the centre of the metal trades of the

kingdom,” having been so christened by so eminent an authority as Sir H. HUSSEY VIVIAN, M.P. It is undoubtedly the seat of the copper smelting trade of the whole world, Prof. PHILLIPS computing that at least nine-tenths of the entire make of copper being smelted in the Swansea district. Then there are tin-plate mills, making on an average, when in full operation, about 20,000 boxes of plates weekly, or about 1,000,000 boxes annually. There are also about 550 collieries within about 40 miles of the port.

Then there are the Landore Steelworks, and the extensive steelworks erected by Sir J. JONES JENKINS, M.P., the silverworks of Mr. L. L. DILLWYN, M.P., 38 ironworks within a radius of 20 miles of the town; extensive patent fuelworks, and other works of almost every kind, affording students the very best field for the practical study of those subjects so closely connected with the great industries of the kingdom. Such being the case, an effort is being made to induce the Government to extend another grant for the special purpose of founding a scientific and technical college for Wales to be located at Swansea. The Mayor of Swansea (Mr. R. D. BURNIE) has just proposed a scheme with this object in view, and which he intends laying before the Corporation at its next meeting. The scheme simply amounts to this—the continuance of the grant of 4000*l.* per annum hitherto made to the Aberystwith College, provided such college be transferred to Swansea and adapted as a scientific and technical college. Aberystwith College, although up to the present it has held the proud position of being the only college in Wales, never has been, and from its situation, never can be successful; and, therefore, it seems rather too much to expect the Government will continue its grant now that colleges have been established in both South and North Wales. If the scientific and technical college was located at Swansea, the South Wales College at Cardiff would be at once relieved of an incubus to the extent of nearly 1000*l.* per annum, the Cardiff people practically admitting that they have as much on their hands in the general education of students as they can satisfactorily accomplish. The subject is one of the very first importance to the South Wales district generally, and efforts are being made to enlist the hearty support of the various Members of Parliament for the Principality. Mr. MUNDELL is an ardent advocate of education. He has the necessary money within easy access, and an opportunity now presents itself for him to prove his desire to forward the interests of those great metallurgical industries upon which is built the stability and prosperity of the nation.

The subject of intermediate education in Wales was alluded to in the QUEEN’S Speech on the opening of Parliament on Tuesday last, which looks as though Government was at length recognising the necessity of further educational stimulus in the Principality. There can be no question that the grants hitherto made to Wales have been altogether disproportionate to those made either to Ireland or Scotland, and it was only by dint of perseverance on the part of the Members for the Principality which induced the Government to recently grant the modicum of educational justice which they have bestowed upon North and South Wales. Let us hope they will now go a step further and grant an additional 4000*l.* a year towards the maintenance of a Scientific and Technical College for South Wales, such being the greatest boon which could possibly be bestowed upon that important colliery and metallurgical district.

### THE SERIOUS CHARGE AGAINST A GOVERNMENT INSPECTOR OF MINES, A CORONER, &c.

In connection with the enquiry at Barnsley in October last relative to the explosion at the Wharfedale Colliery, by which 20 persons were killed, a letter has just been addressed to the Home Secretary by Messrs. WRIGHT, FORMAN, and CRAWFORD, officials of the Northumberland and Durham Miners’ Association, who were appointed to attend the inquest in the interest of the mining body. In it they bring most serious charges against the Government Inspector (Mr. F. WARDELL) and the Coroner (Mr. TAYLOR), and also consider the engineer-in-chief (Mr. MITCHELL) blameable. The object is to procure another enquiry, but this seems unnecessary, as the charges will not stand the test of investigation. The letter commences by alluding to Mr. MITCHELL’s statement that the average quantity of air sent into the mine when fully working was 158 cubic feet per man, which even if true—and they doubted it—was insufficient. Against this view mining engineers standing high in the profession considered the ventilation was ample, and gave evidence to that effect. Moreover, Mr. T. TAYLOR, in his evidence before the House of Lords Committee, stated that where there was not much escape of mineral or other gas 100 cubic feet of air per minute for each man and boy was the minimum quantity essential for sanitary purposes. At the inquest, although the writers of the letter were present, no evidence was called to prove that the ventilation was insufficient, whilst at the time of the explosion there were only 20 persons in the mine, although the ventilation was the same as if the whole body of 300 men and boys were at work, so that there would be at least 1000 cubic feet for each person.

The charge against Mr. WARDELL was that he “did nothing whatever in collecting evidence, or testing the value of that adduced;” yet the opinion of those who were present at the inquest, and had no bias, was that the evidence was most ample and exhaustive, for witnesses were called as to the state of the mine up to the time of explosion, at the time of its occurrence, and immediately afterwards. As to blasting, Mr. WARDELL, who has always been opposed to it, stated that if it was carried on, and there was no law against it, it could be as safely done at the point named as at any other. The writers further state “We have no hesitation in saying that he (Mr. WARDELL) put forth no effort to try and make the enquiry a searching one, but rather palliated the shortcomings of the management; he even went so far as to say he would work the Barnsley bed of coal with a ventilation only commanding 158 cubic feet per minute per man. We regard the apathy and indifference displayed by Mr. WARDELL as indefensible.” So far as this part of the charge is concerned, it may be said that Mr. ATHERLEY JONES, barrister, who was instructed by Mr. CLEGG to appear on behalf of the Miners’ Association, had the opportunity of calling evidence, and we and many others who were in the room at the time, were greatly astonished that he did not do so. Therefore, it cannot be truly said that Mr. WARDELL was the means of keeping back evidence that could in any way throw light upon the probable cause of the explosion. Most of the men working in the day shift, and those who were in the mine at the time of the explosion, were Unionists, and were available for giving evidence if called upon on behalf of the Association.

As to working the Barnsley bed on an average of 158 cubic feet of air per man per minute, Mr. WARDELL reiterated the opinion of Mr. EMBLETON, who has had an experience of more than 50 years in the Barnsley coal field: As to the Coroner, Mr. TAYLOR, who has had probably more to do with colliery explosions than any similar official in the kingdom, the letter says that, “So far as he possibly could he refused to admit our counsel to put the most necessary and relevant questions as to the condition of the pit prior to the explosion, the indications of the explosion, and other pertinent matters, when our counsel was cross-examining witnesses in the most necessary manner he was stopped by the Coroner, and told he was only

there on sufferance—a more shameful display of bias never seen. Admittedly, there were several sharp passages between Mr. JONES and the Coroner; but the points at issue were really as to the putting of what are termed leading and irrelevant questions, which, if allowed, might have spun out the inquiry two or three days longer. Mr. JONES was asked if he had any witnesses to call, but to the surprise of many called none, and the enquiry somewhat suddenly collapsed. We do not think that the Home Secretary is likely, under such circumstances, to grant a second enquiry, believing that the result would be the same.

### COAL MINING PROGRESS.

From the Mineral Statistics for 1882 we are enabled to compare the progress of the various coal mining districts in the kingdom during the last 10 years. As has been the case for a considerable number of years, the greatest drain has been upon the South Durham field, which now produces at the rate of one-seventh of all the coal that is raised in the kingdom. The rate has been almost uniform, and the Northumberland and Durham fields are worked to such an extent that even were the present output not increased the seams would be exhausted in the course of 250 years; but should the progress be maintained which has long ruled the seams would be all removed in little more than 100 years. Yorkshire, Derbyshire, and Nottinghamshire comprise the great Midland coal field—the largest in England, and will undoubtedly last the longest. At present the output is more than one-fifth of all that is raised, and at the present rate the seams would last upwards of 500 years, and that in the conceded coal field an additional 800 years. It is, therefore, evident that the vast central field of coal is destined to become in the future the principal source of supply raised. Durham, in all probability, will be one of the first to take advantage of the Yorkshire coal field, for as Mr. I. LOWTHIAN BELL states, the coal seams in that county will be exhausted long before the ironstone of Cleveland, which is now smelted with it. Derbyshire and Nottingham again may have to furnish South Staffordshire with smelting fuel.

South Wales has a vast area of coal having as great a vertical thickness of strata of any coal field in the world, amounting to upwards of 1000 ft. The total available coal in the South Wales field, to a depth of 4000 ft., is upwards of 32,000,000,000 tons. Some of the fields of coal, during the last 10 years, have been more extensively worked than others, whilst others show signs of exhaustion, as their great resources would appear as if nursed for future use, when coal, from its scarcity, must of necessity become far more valuable than it now is. The percentage of coal raised in the various districts in 1872 and 1882 was as follows:—

|                                      | 1872. | Per cent. | 1882. | Per cent. |
|--------------------------------------|-------|-----------|-------|-----------|
| Northumberland and North Durham..... | 10½   | .....     | 10    | .....     |
| South Durham.....                    | 14    | .....     | 14    | .....     |
| Yorkshire.....                       | 11½   | .....     | 12    | .....     |
| Derby, Notts, &c.....                | 8½    | .....     | 10    | .....     |
| Staffordshire, South.....            | 8½    | .....     | 6½    | .....     |
| Do. North, &c.....                   | 5     | .....     | 4½    | .....     |
| Lancashire, North.....               | 7     | .....     | 14    | .....     |
| Do. West, and South Wales.....       | 7½    | .....     | 5     | .....     |
| Monmouth, Gloucester, &c.....        | 5½    | .....     | 11    | .....     |
| South Wales.....                     | 8     | .....     | 13    | .....     |
| Scotland, East.....                  | 7½    | .....     | 6     | .....     |
| Do. West.....                        | 6     | .....     | 100   | 100       |

### IRISH MINES.

About the year 1843, Capt. W. Thomas, an old correspondent of the *Mining Journal*, employed a Cornish miner for two years to search the ravines, glens, and cliffs of West Cork, and when he discovered any lodes he either wrote to Capt. Thomas or he visited the spot; and thus a great number of valuable lodes in Cork and Kerry were discovered. Amongst them, Glen Cove and South Berehaven Mines, opposite Bear Island, on the south shore of Bantry Bay, from which rise the Killybeg Mountains to a height of 1200 ft. above the sea level. The great mineral zone of Meintervarra terminates at the bold promontory of the Sheep’s Head, in the Atlantic Ocean, and consists of clay-slate, chloritic and micaceous schists, quartz rocks, greenstone, porphyritic rocks, &c. These mountains are traversed by groups or belts of true fissure, east and west veins or lodes, and great oblique caunters; these are filled with soft quartz, mundie, yellow copper ore, gossan, carbonate, and oxides of copper of high percentage, and are from 4 to 16 ft. wide, with rich yellow ore cropping out at surface in the quartz rocks, gossans, &c. A large copper lode was first discovered in a ravine in the side of the mountain, laid bare by a mountain torrent. An adit level was commenced near the shore, and driven south-east on the great caunter some 60 fms., when it intersected several east and west, parallel lodes; and in sinking 14 fms. from surface on one of them 200 tons of mundie were raised and sold, and several tons of copper ore.

At this time Ireland was visited with the loss of the potatoe crop, and the horrors of the great famine, which paralysed all classes, and put an end to every enterprise for many years. Those mines, would, no doubt, have been reactivated long ere this, but the landlord died and a lease could not be obtained. A lease, however, has been obtained on favourable terms—“31 years, free of royalty, fixed rent, 30*l.* a year.” Some Cornish mineowners would do well to copy this example. An enterprising gentleman has commenced working South Berehaven in a spirited manner, with every prospect of its being a great success. Old Berehaven Copper Mines, in the opposite mountain, have produced some two millions sterling worth of copper ore, and occur in the same rock formation as the South Berehaven; there can, therefore, be no reason assigned why South Berehaven shall not be as productive and profitable as the Old Berehaven; in fact, it already gives tangible proofs of being so, as since operations have been commenced adits and shafts have been cleared and secured, the adit cleared to the forebreast, and now being driven on the great mineralised caunter 3000 ft. wide, mixed with rich ore. During last week a new lode was intersected in the adit by the great caunter, from 6 to 8 ft. wide, containing splendid gossan ore, black oxide of copper, yielding 40 and 22 per cent. respectively, and solid yellow ore.

Several tons of ore have already been broken, and one pair of men will soon break a fine parcel of ore, while there are other great lodes ahead in the ravine, which will shortly be intersected in the adit by the great caunter, as it is being driven into the mountain, through which the water drains without any cost from the interior of the mine, and the ore speedily and economically conveyed to surface on a tramway. “Good wine,” it is said, “needs no bush,” nor does South Berehaven Mine “need a bush.”

Immediately adjoining South Berehaven to the east, and embracing all the east and west lodes, are the Glen Cove Mines. These were opened superficially previous to the great famine, which put an end to all operations. Glen Cove is a nook on the south shore of Bantry Bay; on the east side entrance of the cove four great lodes within a parallel distance of each other of 40 fathoms cross out in the cliff, showing strong quartz lodes, carbonate of copper, and yellow copper ore. There are intervening rocks between these lodes; but a cross-cut driven north from south face of cliff, in Cove, would no doubt prove these four great lodes to be one great lode, 40 fathoms wide. Several tons of rich yellow ore were raised in the cliffs of the Cove during the superficial trials. A great caunter lode runs into the mountain south of the Cove, and will intersect the parallel east and west lodes in the ravine in the mountain side, where no doubt rich copper ore will be found, roofing slates, flags, &c., for these mountains contain vast mineral treasures.

MR. JOHN CLARE.—At a cooperage in Argyle-street, Liverpool, there is one of the patent metallic casks invented by him in 1849—exhibited at the Exhibition of 1851. This cask, 30 years old, has been employed in the liquid oil trade, and is as fresh looking as the day it was turned out of the workman’s hands. If Mr. Clare’s casks last so long, how long must his patent ships last in the State Navy, as the same mechanical principles govern the lasting properties of



both casks and ships, the only difference being that the staves of the casks were manufactured with 3-32 in. heads, 1 in. hoops 1 in.; whereas the ships are manufactured with metal proportionately thicker with the increased size of the structure. The hydraulic pressure on the casks was 40 lbs. to the square inch before the heads showed deflection.

#### SCOTCH PIG-IRON WARRANT MARKET.

Mr. W. WILSON (Glasgow, Feb. 7) writes:—The warrant market has been quiet and uninteresting during the past week. The reduction of the miners' wages is being effected without much trouble. The Cleveland Ironmasters' returns are expected to show a considerable increase of stock for January, but this is usual at this time of year, and will to some extent be counteracted when the 18 furnaces go out, as arranged, at the end of the month. Shipments for the week are a little over those of last year. Two furnaces have been put out at Kinnell Works, making the number blowing 95. 1621 tons have been put into store here last week, and 62 tons at Middlesborough. Business was done during the past week at the following prompt cash prices:—

| Thursday, Jan. 31.                   | Friday, Feb. 1.                 | Monday, Feb. 4.                    |
|--------------------------------------|---------------------------------|------------------------------------|
| 43/4, 43/5, 43/5 1/2                 | 43/3, 43/6, 43/5, 43/5 1/2      | 43/5 1/2, 43/4, 43/5 1/2, 43/2 1/2 |
| Tuesday, Feb. 5.                     | Wednesday, Feb. 6.              | Thursday, Feb. 7.                  |
| 43/3, 43/4, 43/5                     | 43/2 1/2, 43/4                  | 43/3, 43/4                         |
| Pice of Scotch Warrants, Feb. 4      | 1884.                           | 1883.                              |
| Furnaces in blast in Scotland do.    | 43/4 ... 47/7 ... 50/9          | 43/4 ... 47/7 ... 50/9             |
| Iron in store at this date           | 590,956 ... 600,101 ... 631,080 | 590,956 ... 600,101 ... 631,080    |
| Shipments of Scotch pig-iron for     | 9,079 ... 8,894 ... 12,361      | 9,079 ... 8,894 ... 12,361         |
| week ending Feb. 2                   | 46,793 ... 51,304 ... 46,909    | 46,793 ... 51,304 ... 46,909       |
| Do, since beginning of year          | 117 ... 121 ... 117             | 117 ... 121 ... 117                |
| Price of Middlesboro' No. 3, Feb. 3  | 3,470 ... 2,550 ... 6,335       | 3,470 ... 2,550 ... 6,335          |
| Furnaces in blast Middlesboro' dist. | 30,420 ... 26,431 ... 35,239    | 30,420 ... 26,431 ... 35,239       |
| Middlesboro' Iron Imported at        |                                 |                                    |
| Grangemouth, week ending             |                                 |                                    |
| Feb. 2                               |                                 |                                    |
| Do, do, since beginning of year      |                                 |                                    |

#### PRODUCTION OF QUICKSILVER IN CALIFORNIA FOR THE YEAR 1883.

|                    | Napa. | Gt. West. | Sulphur. | Bedford. | Great Eastern. | New York. | Various. | Total. | Price in S.F. |
|--------------------|-------|-----------|----------|----------|----------------|-----------|----------|--------|---------------|
| January            | 590   | 390       | 280      | 367      | 252            | 112       | 84       | 2085   | 452           |
| February           | 295   | 384       | 310      | 181      | 156            | 133       | 11       | 1450   | 2150          |
| March              | 485   | 305       | 335      | 202      | 162            | 142       | 14       | 1645   | 2230          |
| April              | 550   | 294       | 310      | 243      | 142            | 76        | 3        | 1598   | 1755          |
| May                | 325   | 293       | 350      | 135      | 164            | 144       | 13       | 1424   | 2344          |
| June               | 360   | 400       | 91       | 165      | 184            | 137       | 10       | 1247   | 2214          |
| July               | 452   | 446       | 130      | 141      | 15             | 87        | 2        | 1406   | 2518          |
| August             | 635   | 315       | 112      | 94       | 70             | 139       | 1        | 1431   | 3000          |
| September          | 750   | 297       | 265      | 45       | 81             | 164       | 30       | 1632   | 3010          |
| October            | 521   | 215       | 208      | 109      | 134            | 272       | 1        | 1457   | 2672          |
| November           | 613   | 208       | 160      | 78       | 102            | 115       | 1        | 1276   | 2212          |
| December           | 274   | 342       | 63       | 134      | 56             | 87        | 18       | 974    | 2297          |
| Totals             | 5890  | 3989      | 2612     | 1894     | 1699           | 1606      | 185      | 17725  | 46725         |
| Production in 1882 | 6342  | 5179      | 5014     | 2171     | 2124           | 1353      | 1379     | 24662  | 52732         |
| 1881               | 5552  | 6241      | 11152    | 2194     | 1065           | 2775      | 5812     | 34791  | 61851         |
| 1880               | 4416  | 6442      | 10706    | 2139     | 1279           | 3209      | 3270     | 36461  | 59926         |

San Francisco, Dec. 31.

J. B. RANDOL.

#### THE JOINT-STOCK BANKS OF LONDON

The usual half-yearly comparative analysis of the reports and balance-sheets of the Joint-Stock Banks of London for the six months ended Dec. 31, prepared by Mr. William Abbott, stock and share broker of Tokenhouse-yard, was issued yesterday, and contains much useful information for investors, given in such carefully arranged tables, that any fact sought can be ascertained at a glance. The first table supplies particulars of subscribed and paid-up capital, new capital, shares reserve funds, deposits, acceptances, and total working resources of the 10 principal banks. Subjoined is an abstract. The columns represent respectively:—A, number of proprietors; B, amount subscribed; C, total unpaid capital, including new capital; D, total paid-up capital and reserve fund; E, total deposits and acceptances; F, ratio per cent. of deposits and acceptances to paid-up capital and reserve fund; and G, paid-up capital, reserve fund, deposits, and acceptances, or total working resources. In columns B and C three 0's are omitted throughout:—

|                     | A      | B      | C      | D          | E           | F   | G           |
|---------------------|--------|--------|--------|------------|-------------|-----|-------------|
| London & West.      | 6,500  | 14,000 | 11,200 | 4,447,353  | 25,166,948  | 568 | 29,614,306  |
| London Joint Stock  | 2,384  | 5,000  | 10,800 | 1,868,008  | 15,571,585  | 834 | 17,437,591  |
| London & County     | 5,000  | 10,000 | 10,000 | 3,000,000  | 29,897,898  | 997 | 32,897,898  |
| City                | 1,500  | 9,000  | 9,005  | 1,995,000  | 15,523,458  | 778 | 17,518,458  |
| Imperial            | 712    | 2,250  | 1,575  | 825,000    | 6,763,642   | 451 | 8,263,642   |
| London & S. Western | 900    | 1,000  | 750    | 285,000    | 3,636,848   | 441 | 4,461,848   |
| Consolidated        | 2,018  | 2,000  | 1,200  | 1,510,000  | 2,495,765   | 879 | 2,781,765   |
| Central             | 350    | 250    | 125    | 365,000    | 3,650,418   | 261 | 4,060,418   |
| Alliance            | 1,584  | 2,000  | 1,200  | 1,032,500  | 2,295,886   | 624 | 3,328,386   |
| Totals or Averages  | 25,898 | 50,500 | 45,455 | 16,168,364 | 107,329,637 | 664 | 123,498,001 |

The next table gives particulars of the assets, working expenses, profits and dividends, also the return to purchasers at the present quotations for the shares. In the subjoined abstract the columns represent:—A, cash in hand and at Bank of England; B, total assets, including buildings, &c.; C, working expenses; D, net profits; E, rate per cent. per annum on paid-up capital of last half-year's dividend; and F, the interest per cent. secured by purchasers:—

|                        | A           | B          | C       | D       | E  | F |
|------------------------|-------------|------------|---------|---------|----|---|
| London and Westminster | 3,214,912   | 29,866,306 | 84,812  | 230,060 | 16 | 4 |
| London Joint Stock     | 1,688,885   | 17,537,629 | 53,452  | 104,772 | 17 | 4 |
| London & County        | 3,950,992   | 33,199,955 | 170,680 | 220,511 | 22 | 5 |
| City                   | 2,613,639   | 17,662,492 | 52,124  | 94,879  | 13 | 6 |
| Imperial               | 625,000     | 8,326,374  | 35,351  | 47,498  | 8  | 0 |
| London & S. Western    | 397,617     | 4,496,520  | 15,138  | 27,445  | 8  | 1 |
| Consolidated           | 413,755     | 2,791,995  | 24,682  | 10,603  | 8  | 4 |
| Central                | 229,730     | 1,514,035  | 12,579  | 12,207  | 19 | 5 |
| Alliance               | 276,969     | 4,299,835  | 10,348  | 32,242  | 8  | 6 |
| Totals or Averages     | 124,506,219 | 484,362    | 623,969 | 14      | 92 | 5 |

The remaining table is a comparison of the principal items with the corresponding figures of the previous half-year, which will be of great utility to investors; but no useful abstract of it can be made in the space here at disposal.

\* The new capital issued by the London Joint Stock and Union Banks is in course of being paid up. As they only pay interest on instalments at the rate of 4 or 5 per cent. until the final calls are liquidated, the amounts received on account of capital are included in this analysis in "Deposits and Current Accounts," and not in the "Total Paid-up Capital."

† These items cannot be stated, as the Consolidated Bank does not yet separate cash in hand and at the Bank of England from cash lent at call; both are therefore included in the above analysis with Bills Discounted, Loans, &c.

a The increase in the capital of the London and County Bank is explained by the 500,000 of new capital having been transferred to the General Capital Account at the commencement of the past half-year on July 1. The instalment on account of new capital was formerly included in this analysis with the Deposits and Current Accounts, and the interest paid thereon at the rate of 5 per cent. per annum was deducted from the half-year's profits; 14,792, having been paid in this way in the half-year ending June 30, 1883, the absolute increase in the net-profits during the past half-year was strictly 7955, instead of 22,747, as above. Although there was this increase in the amount of the net profits, the rate per cent. on capital was less, owing to the 500,000 of new capital ranking for dividend for the first time.

b The increase in the capital of the City Bank is explained by the 200,000 of new capital having been transferred to the General Capital account at the commencement of the past half-year on July 1.

SWANSEA HARBOUR.—No HARBOUR OR DOCK DUES PAYABLE.—An extremely liberal offer has just been made by the Swansea Harbour Trustees, which cannot fail to be appreciated by shipowners generally. The General Superintendent—Mr. Robert Capper—has issued a notice that all vessels seeking freights are allowed to use the Swansea Docks for seven days, free of all charges whatsoever, provided:—Captains declare to the dock or assistant harbour master on entering the docks that they are "seeking," and leave the port within seven days, without performing any operation, or taking in, or discharging, cargo, bunkers, or ballast. After that time such vessels will be liable to pay tonnage rates according to the recently amended and greatly reduced tables. The sea pilotage, non-compulsory, is—into Swansea Harbour about 5s. per 100 tons, optional outwards. To further push the business of the harbour a handsomely

printed pamphlet has been published by the trustees showing that the tonnage of vessels using the harbour has increased, especially in steam tonnage; that the tonnage rates are slightly reduced in a decade; and that the gross revenue per ton of imports and exports has nevertheless increased in that period. A mass of tables are given showing the details of the exports and imports. One shows that the total receipts of the harbour were in 1873 58,118, and last year they had risen to 89,764. The pamphlet is worth reading by all interested in docks and shipping, and it should read a lesson to some dock authorities in this district. Now-a-days even dock authorities must, as has been truly remarked, learn that the steamboats of the world will go, other things being equal, to the ports that are cheapest, and that make their facilities best known. Swansea has certainly set an example which may well be followed by its competitors in other parts of the kingdom.

MINING PROFITS.—It has frequently been stated that where capitalists hold their shares as original subscribers in carefully selected mines handsome profits are realised, and that the complaints of mining losses are usually loudest from those who have sought profit from share-gambling rather than from legitimate mining. These purchases at the wrong time, and at high premiums, and display equal want of common business judgment in selling. The year 1883 has been the worst since 1879, yet figures prove that original holders at the price of issue have received 15 per cent. per annum interest for their money, and have, therefore, little to complain of. The ninth annual table of British and Foreign Mining Companies dividends published in to-day's *Mining Journal* shows that in 1881 British mines, with an aggregate capital of 890,326, paid 139,508, or 15½ per cent. per annum as dividends. In 1882, on an aggregate capital of 1,033,625, paid 161,802, or 15½ per cent. per annum dividends. And in 1883, upon an aggregate capital of 765,334, they paid 115,988, or 15 per cent. per annum as dividends. The uniformity of the percentage is most remarkable, the lamentable depression of metals during 1883 only having affected the rate to the extent of 10s. per cent. Foreign mines, owing probably to the absurd premiums usually charged by vendors, do not give quite so high a percentage of profit, but the average result is by no means unsatisfactory, and appears to be improving each year. In 1881 an aggregate capital of 7,558,889, earned 929,658, or 12½ per cent. per annum in dividends. In 1882 an aggregate capital of 9,656,066, earned 1,334,822, or 14 per cent. as dividend. And in 1883 an aggregate capital of 9,196,787, earned 1,328,581, or 14½ per cent. per annum as dividend. During the three years, therefore, British and Foreign Mines quoted in the *Mining Journal* Share-List have distributed as dividends no less than 4,010,359, yet capitalists still prefer to depend on share premiums instead of legitimate profits, and condemn mining because they have not the nous to gamble successfully.

ASSAYING PYRITES.—Some interesting experiments have been undertaken by Prof. G. LUNGE, of Zurich, with a view to ascertain whether in the aqua regia used for dissolving pyrites in the moist way there is any advantage in the use of a nitric acid of very great strength. He finds that it is not advisable to take a nitric acid of a specific gravity exceeding 1.42. In the assaying of pyrites Bodevig introduces about 0.5 gramme of the sample into a stoppered flask containing about 30 c.c. of water, and 30 c.c. of water are added, and the necessary quantity of bromine, about 4 c.c., is introduced at once. If the bromine is added gradually, sulphuretted hydrogen escapes. The flask is immediately stoppered, and shaken for five minutes. There is scarcely any heat evolved. The oxidation is complete when all the bromine has passed into solution, and when no pulverulent sulphur creeps up the sides of the flask. The liquid is rinsed into a flat porcelain dish; the greater part of the bromine is allowed to evaporate in the cold; the solution is neutralised in a beaker with ammonia, but not so as to form a permanent precipitate; it is then poured into an excess of hot ammonia in a platinum capsule, and digested for from 10 to 15 minutes over a small flame. Hereupon it is filtered, the filtrate is slightly acidified with hydrochloric acid, the hot diluted solution is precipitated with barium chloride, and the barium sulphate is purified and weighed in the ordinary manner. Iron can not be determined in the same portion, as it is volatilised even in the cold along with the vapours of bromine.

IMPROVED ELECTRIC ROCK-DRILL PERFORATOR.—This invention relates to a new improved electric rock-drill, or rock-drill perforator, or coal getter—for boring, drilling, cutting, or getting rock, coal, ironstone, or other minerals, and is worked, applied or adapted, as follows:—The primary or electric force or power wherewith to work this drill is generated by a dynamo, or other electro motor or source of electricity, and the object in working by electricity is that the power can be conveniently transmitted along wires or cables of insulated wires to very great distances, and can be applied in many places where it would not be practicable to adopt steam or compressed air drills. The wires or cables take up very little space, are light and inexpensive compared with steam or air pipes, such as would be required to transmit equal powers, and they are readily laid down and connected to the electric drill, which consists of a second dynamo or receiver, and on the wires with the power being attached to the fingers, the armature spindle of the receiver is caused to revolve at a great velocity on its axis. This spindle is fitted with a spur and feed wheel which gears to suitable pinions fitted to a second spindle parallel to the first spindle. Either one or both of these spindles may be screwed and grooved so that the pinions, which are fitted with projections, are rotated with the spindles. The pitch of screw and size of wheels are made to suit the requisite power and rate of feed required according to the degree of hardness or unequal nature of the rocks that may present itself to be operated upon. The drill tool may either be a hollow tube fitted with or without a diamond cutting head, or a plain or twisted elongated drill rod; it is attached to the drill-holder socket, which is fitted to any of the spindles, so that one or more holes can be bored simultaneously from one machine. The spindles by preference may be hollow, so that the feed screw or screws can project into or through them, and being fitted either with differential spur or worm-wheel gearing, they will feed or withdraw the drill to or from the rock automatically. The automatic feed is thrown in or out of gear by a clutch lever, and the drill can be fed or withdrawn by hand when desired. The receiver or drill is fitted with a universal joint, which is connected to a pedestal stand, or movable carriage, and works at any desired angle in the most confined places. The whole apparatus is light and portable and can be easily put to work, and is quickly disconnected when the desired number of holes are drilled ready to charge and blast. This is the invention of Mr. J. E. Cranston, Newcastle-on-Tyne, and also relates to some of the objects described in Mr. Cranston's electric rock-drill specification of 1879 (which was noticed at that time in the *Mining Journal*), and is principally adapted for perforating or boring mineral rocks, such as coal, sandstone, Cleveland ironstone, killas, and post rocks.

SPITZKOP (LYDENBURG) GOLD.—The remarkable success of the ore crushing of the Transvaal Exploration Company is drawing attention to the other Transvaal properties, prominent among which is this recently formed company, which has, it is stated, already given orders for machinery. Mr. Jules Franck, of Lydenburg, has been appointed local agent to the company, and a well-known Californian hydraulic superintendent has received an offer to take charge of the hydraulic department, while the monitors or "Little Giants" have been ordered in California. It has been found that the iron pipes usually made of the best Russian iron, can be obtained of equal quality in this country as in California, and at little more than over half the cost. In arriving at this conclusion, the directors have had the benefit of the advice of several experienced Californian hydraulic engineers who happened to be in London at the time, and also after professional consultation with Mr. W. B. Pascoe, the English mining engineer, who has recently thoroughly inspected the property, having specially visited the Transvaal for this purpose, and having spent two months upon the property. Mr. Pascoe was also one of the earliest miners in California to utilise the present system of working auriferous alluvials.

NEW SOUTH WALES COACH AND WAGON-MAKING INDUSTRY.—The manufacture of coaches, buggies, and other carriages forms one

of the leading industries in the Colony, over which the various works are pretty evenly dispersed, one or more being found in almost every electoral district. The work is generally of a substantial character, more on the American than the English principle, but some of the Sydney establishments produce vehicles which would do credit to the best London workshops, even those in Long Acre or Oxford-street. The more expensive class of carriages are, however, generally imported, but except in the towns they are found to wear more rapidly than do the colonial-made vehicles.

#### THE DIVIDEND MINES OF 1883.

BY EDWARD ASHMEAD, F.C.A.

The statistical table, with detailed information relating to those metalliferous mines, British and foreign, which have made returns to their shareholders in the shape of dividends in 1883 will be found in this week's *Mining Journal*. This is the eighth annual table of a like nature; the whole series giving a large amount of useful and reliable information. The Dividend List of 1883 contains 41 companies, of which 19 are British and 22 foreign. It is generally considered that 1883 has been—so far as profitable returns to shareholders have gone—about the worst since 1879, and it is true as far as British mining is concerned, but hardly so as regards foreign companies. The following figures prove this:—In 1881 there were 25 British dividend mines, whose united capital amounted to 890,326, giving dividends of 139,508, or 15½ per cent.; 1882 had 26 mines, with 1,033,625 capital, 161,802 dividends, and 15½ per cent.; 1883, 765,334, capital, 115,988 dividends, or 15 per cent. Of foreign companies the year 1881 shows 24 companies, with 7,558,889 capital, giving 929,658, in dividends, or 12½ per cent.; 1882, 26 companies, 9,656,066 capital, 1,334,822, in dividends, or 14 per cent.; and 1883, 22 companies, 9,196,787 capital, 1,328,581, in dividends, or 14½ per cent.

It is natural to consider the British section of the table first, and to direct attention to our native mines. Britain may claim, without dispute, to have the oldest known working mining districts in existence. British mining commenced before British history. The pick and gad, or what did duty for them, are doubtless more ancient implements of industry in this country than the sickle and plough. The first mention of Britain is that in connection with Cornwall and its tin, and from that period until now, so far as can be learned, mining has never ceased. A good history of British mining is a want that has been felt. It was announced a short time since that Mr. Robert Hunt, F.R.S., late Keeper of the Mining Records, was about to publish a work on this subject, than whom no one is better qualified. It is to be hoped that such is the fact.

The results of British metal mining last year did not realise the anticipations formed of it at the end of 1882. A general depression has been experienced where a rise was looked for. The causes have been more than one. The drop in the price of tin, copper, and lead has probably been the chief. As regards the dividend mines, black tin in 1883 realised 53s. 12s. 3d. per ton, against 59s. 4s. 5d. in 1882; copper ore 3s. 8s. 7d., against 3s. 18s. 6d.; and lead ore 8s. 18s., against 10s. 5s. 8d. These differences have been fatal during the year to many mines. Another blow to British mining has been received from a quarter least expected, and has resounded from the West of Cornwall throughout the kingdom. I allude to the Dolcoath lease renewal fine; this has given a check to mining enterprise from which it will not recover until the future relationship between lord and adventurer has been fixed upon a basis very different from that which has hitherto existed. The whole question of dues, dead-rents, damage, and renewal fines must be revised, so that those who find the money and bear the risk shall not be wholly at the mercy of those who contribute little more than the barren moor and solid rock. The hardship of the present system is well exemplified in taking the dues on the dividend-paying mines of last year. The adventurers or shareholders in the 19 mines in question paid up, out of pocket in the shape of calls on their shares, in round numbers a sum of 765,000, for which outlay if all the mines ceased working to-morrow there would only be the value of engines and plant to show, probably about 1s. in 17. For their irrecoverable capital the shareholders have only the dividends to recoup them. The lords, on the other hand contribute, what? Mining rights in 19 pieces or parcels of land, almost worthless at surface for any other purpose, and absolutely worthless underground without the capital.

The gross produce from these mines was 541,500, and upon this gross produce the lords' dues come to over 34,200. The working costs come to about 376,400, leaving a profit for division of 140,900. Under ordinary circumstances all this would have been divided, but for a new and unexpected demand. The Dolcoath Mine required a new lease, and as Dolcoath was well enough in prospect to pay a good fine for the renewal, 25,000, was eventually paid to the lord for that purpose, thus bringing the dividends paid on British mines down to 115,900. The lord of Dolcoath got the money, the adventurers and public got disgusted, and mining generally, even to the labourers, will suffer for a long time to come. The dues question, as shown from the dividend mines, merely gives the matter in its most favourable light. A vast number of mines afford no profit, yet the lord still has his dues on the gross returns, although these returns may contribute but in part toward the working expenses. The dues should be on net profits. The unjustness of the present payment of dues on gross returns was very clearly shown by the Chairman of a mine meeting in Cornwall, which mine for some time has been working at a loss to its shareholders. He stated that the mine in question from 1872 to 1882 had paid the lords 13,426, in dues, that it had called up from its shareholders in the same period a sum of 31,500, and paid in dividends 11,500. So that it really amounted to this, that had the shareholders made the lords a present of 13,426, and done nothing whatever they would have been 6574, the better off. If the shareholders have any compensation at all it is only in the fact that they have been philanthropic enough to give employment to a large number of men for ten years.

A third drawback to home mining has been an absence of any important discovery last year, but this in part is the natural consequence of the low price of metals, causing limited working and the stoppage of all shafts and levels not actually productive or likely to be productive quickly. This is natural and really imperative where money to work has to come from calls, but it is not always wise. There is a saying that "little happens but the unexpected," and all who have been much engaged in mining know how often a great discovery has been found in some part of a mine where it was least looked for, and while it was being sought for in vain in quite another direction.

It is pleasing to see that the following mines have never ceased to give dividends during all the eight years I have prepared these tables:—Dolcoath, East Pool, Great Laxey, Lisburne, Minera, Roman Gravel, South Condurrow, and Wheel Eliza. But I miss with regret two that I have always found hitherto—North Hendre and the Van Mine. These are lead mines, and the fall in lead has told the most. One lead mine, however—Leadhills—has increased its amount of dividend over that of the previous year. Levant is a mine that takes its place in the list of dividend mines for the first time. West Kitty, which entered in 1882, has done far better in 1883, and is the last new mine that has really made what seems to be a good find.

The results of foreign metalliferous mining have not been so bad. Mines abroad are not troubled with the dues question, and work, as a rule, with much larger capital. The number of dividend companies are less than the year before; but from these, as shown above, we have better results, and a better return per cent. on the capital embarked. One great mine from the Dividend List of 1883 will be conspicuous by its absence—the celebrated St. John del Rey. It has had in its course two long series of great prosperity; probably there is a third yet to come. The four great copper producing companies—the Cape Copper, Mason and Barry, Rio Tinto, and the Tharsis Company—go on in their prosperous course, the first for dividends being a little under the year 1882, the second and third equal, while the last gives even an increase. These are giants among mines. Richmond still gives fine dividends, but does not come up to former years. Panulillo has increased its dividends, and Copiapo (both in Chili) has declined a little. Sierra Buttes and Plumas



Eureka gold mines both are a little under the usual mark. The three Spanish mines of Alamillos, Fortuna, and Linares, notwithstanding their being lead mines, have all increased on their previous year's dividends. The Western Andes and Tolima (gold mines) also return their shareholders an increase. Bratsberg, California (of Colorado), and Colorado United are new entries into the list.

#### THE OURO PRETO GOLD MINES OF BRAZIL.

It is understood that the prospectus of this company has been well received, and particularly so in Paris, where the merits of the property are even better appreciated than in London. It should be understood that the property is a going concern, that it has 46 heads of stamps on the ground, that it is making monthly returns, and that it comprises four distinct mines, each of enormous extent. Of these four mines the success of two alone—the Raposos and the Espirito Santo—has up to the present time been extraordinary, so that it is estimated that an ample supply of ore will be obtained from these two mines alone to keep 200 heads of stamps in continuous work, and to afford an output of 150,000 lbs. of gold daily, which it is calculated would leave a profit of over 100,000 lbs. per annum. This is quite apart from the Borges Mine, where there is a mill with 16 heads of stamps working upon rock, 100 tons of which has proved to be of an average richness of over 16 ozs. (about 1½ ozs.) of gold to the ton. Subsequent trials show that the ore becomes still richer as greater depth is attained. Then there is the Passagem Mine, which has a vein in some places as wide as 40 ft. The gold here exists in exceptionally rich pyrites and ore. An investigation made by Messrs. Johnson, Matthey, and Co., upon 6 cwt. of this ore shows it to contain 5,925 ozs. of gold per ton; and a letter from Messrs. de Long and Cie., of Paris, states the value of the concentrated pyrites sent to them for assay to be 1362½ per ton. Before the prospectus was issued the working capital of 80,000 lbs. was secured. The expenses at the mines should be exceptionally light, for the water-power is ample, and the labour cheap and abundant. In short, it should be understood that this purchase includes four extensive estates, comprising over 8000 acres of land, much of which is well wooded, in opening up the mines on which large sums of money have been recently expended, together with valuable water rights and timber. Each property is of sufficient magnitude to have justified the formation of a separate company; but the whole can be more advantageously dealt with under one management. It is rarely that a more desirable investment has been offered to the public and endorsed as the prospectus is by Messrs. John Taylor and Sons, of Queen-street-place; it should have weight with all classes of investors.

#### THE PROGRESS OF COMMERCE.

The first month's Board of Trade Returns are by no means encouraging, although they are less unsatisfactory than most people anticipated they would be, judging from the very general complaint of dulness of business. The iron and steel exports are decidedly unfavourable as compared with the corresponding month of last year, the total quantity exported showing a falling off of 46,210 tons, while the decline in the estimated value was equal to 20.6 per cent. The decline in pig and puddled iron was nearly 5004 tons, and the diminished value was 18.6 per cent. The falling off was principally with Belgium and the United States. There was a large increase with Holland, and with countries not specified. The small increase of 346 tons is shown in the month's exports of bar and angle iron, but, owing to lower prices, the value of the exports is less by nearly 5 per cent. Railroad iron shows the very large decrease of 37,077 tons in quantity, and 47 per cent. in value. Looking to the detailed returns, we find that the falling off was chiefly in our exports of this class of iron to Italy, America, Mexico, the Argentine Republic, British North America, South Africa, and the East Indies. Wire shows a decline of 44 per cent., and telegraphic wire 5.4 per cent. In cast and wrought iron a decrease in the value of the month's exports is shown equal to 6.1 per cent.; hoops and sheets, 7.1 per cent.; old iron, 40 per cent.; and steel (unwrought), 16.2 per cent.

The figures for January, 1883, were:—Iron, pig and puddled, 215,310t.; bar, angle, &c., 177,460t.; railroad, 602,479t.; wire, 102,537t.; telegraphic wire, 296,167t.; cast and wrought, 409,184t.; hoops, sheets, &c., 322,050t.; old iron, 27,779t.; steel, unwrought, 117,069t. In January of the present year the exports were:—Iron, pig and puddled, 175,493t.; bar, angle, &c., 169,789t.; railroad, 319,859t.; wire, 57,647t.; telegraphic wire, 280,076t.; cast and wrought, 384,780t.; hoops, sheets, &c., 299,215t.; old iron, 16,158t.; steel, unwrought, 93,614t.

The prospects of copper present a striking contrast to those of iron; the reports of the copper exports were particularly favourable, the total excess in quantity for the month being 19,920 cwt., the increased value being equal to 14 per cent. The largest increase was in wrought copper; and the improved trade, both in this description of copper, and also in unwrought copper, was with the British East Indies. The totals are:—In January, 1883, unwrought copper, 102,021t.; wrought, ditto, 115,627t.; brass, 46,544t.; mixed or yellow metal sheathing, 73,519t. In January, 1884, unwrought copper, 107,337t.; wrought, ditto, 139,032t.; brass, 37,887t.; mixed or yellow metal sheathing, 86,009t.

Among the miscellaneous exports it will be observed that there was a slight increase in the value of the month's exports of alkali, ammunition nearly 50 per cent., railway passenger carriage, 54 per cent., railway trucks 123 per cent., coals 9.6 per cent., chemicals 6 per cent., plate and plated wares, 24 per cent., and steam-engines 25 per cent. There was a falling off in the exports of hardware and cutlery of 17 per cent., and tin-plates 1.6 per cent.

The annual report of the British Iron Trade Association about to be issued by the secretary, Mr. J. S. Jeans, shows that the total make of Bessemer steel ingots in the United Kingdom in 1883 was 1,553,380 tons, a decrease of 120,269 tons, or 8 per cent., as compared with that of 1882. The principal decrease in the make took place in the Sheffield district, but this was chiefly due to the removal of the Dronfield Works of Messrs. Cammell to Workington. The decline of 25,018 tons in the make of the Cleveland district was mainly due to labour difficulties. The productions of South Wales and West Cumberland show increases, that in the latter district being of course due to the new works started by Messrs. Cammell. The production of Bessemer steel rails was 1,097,174 tons, a reduction of 138,611 tons.

#### COPPER ORES.

Sampled Jan. 15, and sold at Tabl's Hotel, Redruth, Jan. 31.

| Mines.          | Tons. | Price.   | Mines.             | Tons. | Price.  |
|-----------------|-------|----------|--------------------|-------|---------|
| Mellancar.....  | 80    | £22 10 0 | West Seton.....    | 22    | £3 10 0 |
| ditto.....      | 79    | 2 6 6    | ditto.....         | 1     | 7 5 6   |
| ditto.....      | 78    | 2 5 0    | Wheel Coates.....  | 55    | 4 1 6   |
| ditto.....      | 75    | 2 7 0    | ditto.....         | 15    | 4 10 6  |
| ditto.....      | 74    | 1 9 6    | West Kitty.....    | 42    | 7 16 0  |
| ditto.....      | 70    | 2 4 0    | West Tolgus.....   | 39    | 4 6 0   |
| ditto.....      | 63    | 2 14 6   | West Poldice.....  | 23    | 3 9 0   |
| West Seton..... | 34    | 4 7 0    | New Trumpet Conals | 15    | 7 5 6   |
| ditto.....      | 30    | 4 3 0    |                    |       |         |

#### TOTAL PRODUCE.

|                       |     |           |                      |     |           |
|-----------------------|-----|-----------|----------------------|-----|-----------|
| Mellancar.....        | 524 | £1170 0 6 | West Wh. Tolgus..... | 39  | £167 14 0 |
| West Wheel Seton..... | 87  | 355 13 6  | West Poldice.....    | 23  | 79 7 0    |
| Wheel Coates.....     | 75  | 292 0 0   | New Trumpet Con. 15  | 109 | 2 6       |
| West Kitty.....       | 42  | 327 12 0  |                      |     |           |

Average standard..... £ 89 11 0 1/2 Average produce..... 6 1/2  
Average price per ton..... £ 3 3 6  
Quantity of ore..... 800 1/2 Quantity of fine copper, 52 tons 10 cwt.  
Amount of money..... £ 2502 9 6  
LAST SALE.—Average standard, £ 84 9 0 1/2 Average produce..... 6 1/2  
Standard of corresponding sale last month, £ 83 4 0 1/2 Produce, 7 1/2

#### COMPANIES BY WHOM THE ORES WERE PURCHASED.

| Names.                        | Tons.   | Amount.    |
|-------------------------------|---------|------------|
| Vivian and Sons.....          | 145 1/2 | £ 554 1 8  |
| F. Grenfell and Sons.....     | 171 1/2 | 620 15 8   |
| Nevill, Druce, and Co.....    | 161     | 394 10 6   |
| Williams, Foster, and Co..... | 136 1/2 | 411 13 8   |
| Mason and Elkington.....      | 74      | 192 13 0   |
| Charles Lambert.....          | 109     | 428 15 0   |
| Total.....                    | 800     | £ 2502 9 6 |

#### FOREIGN MINES.

**ALAMILLOS.**—Jan. 30: The lode in the 60, driving west of San Felipe's shaft, being small and poor the driving is suspended for the present. In the 50, driving in the same direction, the lode contains stones of ore, but not enough to value. The lode in the 85, driving east of San Enrique's shaft, has slightly improved, and yields good stones of ore. In the 130, driving east of Taylor's engine-shaft, the lode is large, but without ore. In the 130, driving west of Taylor's engine-shaft, there is no improvement. The lode in the 115, driving in the same direction, is unproductive at present. In the 80, driving east of San Victor's shaft, the lode is very wide, and is opening up valuable ore ground, worth 3 tons per fathom. The lode in the 70, driving west of San Victor's shaft, is small, and of no actual value. In the 70, driving west of Judd's engine-shaft, the lode is small, and the granite very hard. The lode in Roca's mine, sinking below the 50, has declined very much in value. Cantero's mine, sinking below the 50, is unproductive at present. Teran's mine, sinking below the 50, is going down in a fine shoot of ore, worth 2 tons per fathom. Roca's mine, sinking below the 50, is situated east of San Enrique's shaft, its present worth is 1/2 ton in a fathom. The weekly rate of workings with great regularity in the past month, during which the stopes did not undergo any change of importance, and they are yielding moderately at present. The works at surface are going on regularly, and the machinery is in very good condition. We estimate the raisings for February at 200 tons. The tributors returned 195 tons of ore in the past month.

**ALMA AND TIRITO CONSOLIDATED.**—Richard Harris, Jan. 5: Mina Grande, Handed Lode: Stopes back of 40 ft. Drift: Width of ore 2 ft. worth 8 tons per lineal fathom. Assay of sample from this stop 16 1/2 ozs. per American ton.—Back of No. 45 Drift: Width of ore 3 ft.; worth 12 tons per lineal fathom: assay from this stop 25 3/4 ozs. per American ton.—Back of 12 ft. Level: Width of ore 4 ft., worth 16 tons per lineal fathom: assays from this stop 49 ozs. per American ton, part smelting ore.—Wines No. 3 below No. 45 Drift: Ore 1 ft. wide, worth 4 tons per lineal fathom: assay 27 ozs. of ore from this mine, 29 1/2 ozs. per American ton.—No. 2, below 12 ft. Level: Ore in bottom 3 ft. wide, worth 12 tons per lineal fathom. Assay of ore from this mine 34 1/2 ozs. per American ton.—No. 1, below 12 ft. Level: Ore 3 1/2 ft. wide, worth 14 tons per lineal fathom: assays of ore from this mine 37 1/2 ozs. per American ton. There is a great falling off in the 12 ft. level end since our last advice. The north breast is in now 1 ft. of ore, worth 4 tons per lineal fathom. Assay from general sample at this level 46 1/2 ozs. per American ton, part smelting ore. Assay of sample from north breast 47 1/2 ozs. per American ton. San Juan stopes, west of cross: No. 1, by a trial shaft on the Savalan lode, at a depth of 12 tons per lineal fathom. Assay of ore from this stop 21 1/2 ozs. per American ton.—Rise in Main Stop, Mina Grande: On Dec. 23 we holed between this and the bottom mine in San Jose. This has greatly improved the ventilation in the Mina Grande. We have now started a short drift about 100 ft. above the tunnel in search of a pillar.

**W. A. Clemes, Dec. 29:** Week's leaching, \$5100. The new solution is working well, and we are now able to recommence treating the old ore stock.

**BELL.**—The following telegram was received from Mr. Brand on the 1st inst.:—Mill started all right.

**ASIA MINOR.**—J. W. H. Escherich, P. J. C. Munshel: December Report: Level I (Arthur): Total stopings, value 2 to 2 1/2 tons per fm.—Level III (Petr): At the end of this level rise No. 3 to Level IV (Savalan) is being begun, also a siding track for changing wagons had to be laid. This necessitates widening the level at this spot, which interferes with the drive for a week or two. Total stopings, value 1 1/2 to 2 tons per fm.—Level IIIA (Ancient Air-Shaft): At 200 ft. west of cross: No. 1, by a trial shaft on the Savalan lode, at a depth of 36 ft. we found the lode to have increased in value to 2 1/2 to 3 tons per fm. For this reason cross-cut No. 4 will be recommenced in January, with a view of reaching the Savalan lode.—Level IV (Savalan): The ore nearly disappeared here, and therefore, with January driving will be resumed in the softer rock south of the lode. Total stopings, value 1 1/2 ton per fm.—Level VI (Durfled A): Owing to an interruption the lode diminished in size and nearly disappeared towards the end of the month. On Dec. 23 we consequently commenced driving in the soft rock south of the lode, and according to past experience (at the forebreast of Savalan level), we have no doubt that we shall again fall in with it in January. Rise No. 2 to level VIII: This rise is to serve for ventilation and conveyance of ore. It stands exactly above rise No. 4 from level IV (Savalan). Total stopings: Value 2 tons per fathom.—Level VIII (Genosse): During this month cross-cut No. 8 was driven through the lode, which showed only impregnations of ore. Driving south of lode began in January. Total stopings: Value 1 1/2 tons per fathom.—Level IX (Michael): In this level cross-cut No. 6 was commenced, and by the end of the month the lode showed about 1 in. of pure ore.

**General Remarks:** Production in December 137 tons in 25 working days, equal to 5 1/2 tons per day, against 95 tons in 18 working days in November, or 5 1/2 tons per day. The stock of ore at the different levels, &c., amounted to 2780 tons, estimated to contain 500 tons of ore. Surface labour was restricted to trifling repairs of buildings and clearing roads of snow. The new road from Kara Hissar to Kerasan now in construction, passing over our incline—between mine and large stone pile, with this space there are stone pillars, each 15 ft. long by 3 1/2 ft. thick and 10 ft. high, to serve as a bridge, which will be finished next spring.—Dressing-Floors: Water supply averaged 5 1/2 cubic feet, against 4 1/2 last month. Production, 68 tons, or 2 1/4 tons per working day, against 83 tons, or 3 1/4 tons per working day in November. The stock of dressed on Dec. 31 amounted to (say) 59 tons from buddies; 33 tons from jiggers; total, 147 tons.—Buildings: The ore magazine was finished by covering the roof with sheet-iron. The interior still requires to be floored. In the buddle-house two new buddies were completed, which will be finished in January, during which month we also expect the new twin crusher for the chato to be ready for work.—Transport: In consequence of the severity of the weather in this month we could only get away 15 tons. Weather very changeable, sometimes with violent gales and snow, preventing the traffic over the mountain.

**BUENA VENTURA.**—Jan. 30: In the 20 driving east of Atilana shaft a good length of valuable lode has been opened up, and although not so productive at present as it was profitable ore ground is being driven through. In the 20 driving west of Atilana shaft no regular driving has been continued, the men having been removed to an intermediate level, where some paying ground has been met with. In Contrabando shaft sinking below the surface we have begun to cut down and enlarge this shaft. It was formerly used by the tributors, but they having taken away all the ore from the water level to surface we have decided to sink 10 fms. in whole ground, and make a trial of the lode at that point. No. 11 mine sinking below the 15 was commenced in a sink already below the bottom of the level, and will soon be got through to the 25. The lode is turning west of Atilana shaft, and is very steady, and the ore is turning, and the economy enforced in every department. The engines are in good condition, and do their work at a comparatively cheap rate. The tributors are working well, but not so successful as they were last month. The raisings altogether amount to 54 tons of best ore.

**CALIFORNIA GOLD.**—A. Rickard, Jan. 5: At the 1500 ft. level east the under-cutting of the lode at 100 ft. from shaft shows a total width of 10 ft. of pay mixed with porphyry, without revealing any particular formation other than the soft rock of the lode. The top of this level of the lode is very largely, and the ore is of good grade as milling material, but little of it is smelting ore. The 1500 level is in 122 ft.; the lode continues to open out very satisfactorily, and is yielding 6 tons of good grade milling ore per square fathom. The stopes of the same level is yielding 5 tons per square fathom. The lode in the 1400 stopes east will average a little over 3 ft. in width, yielding only 7 tons of milling ore per square fathom. The 1400 ft. is in 357 ft.; the lode has opened out somewhat. The stopes are yielding good grade mineral, and about 4 tons per square fathom. The 1300 ft. is in 134 ft., and the 1200 ft. is in 130 ft. of shaft; it is being cut down to ventilate the stopes from the 1430, and at the same time to afford facilities of access to them.

—Last week's telegram from Mr. Rickard received 2nd inst. was as follows:—Mill run, 460 tons; yield \$4500 (9000).

—Mr. Rickard sent the following telegram to the directors on the 7th inst.:—MILL run, 500 tons; yield, \$4000 (3000).

**COLORADO UNITED.**—Mr. Macrae, Jan. 12: The 13th level is still continuing in ore showing from 2 to 3 inches of mineral, composed of fine sand, and is yielding 2 to 3 tons of ore per square fathom. The 3 slope at back of this level has a nice streak of some 4 in. just coming in. The ore is also of a better quality. A party have started to work on the Baltimore Blaine lode about 30 ft. west from the junction of the Fenton and Blaine lodes. They are going to sink a shaft and keep it down the same depth as the Baltimore Company's shaft, so that we can connect with their levels as soon as they drive them through their ground, whose limit will be 34 ft. west of this shaft. The party on the Brown lode through the Mammoth tunnel have commenced to drive west. The breast of the drift was found to be 72 ft. west of the Mammoth tunnel. The have driven some 6 feet, and have struck a streak of ore of 4 in. in width. They are driving for the Brown shaft, the ground will probably be surveyed next week, in order to find out how far distant the shaft now is: 80 sacks of cobbed ore weighing 3 tons 1400 lbs. were shipped during the week.

**CORPORATION OF SOUTH AUSTRALIAN COPPER.**—Dec. 29: Mount Rose Mine: The committee have decided to temporarily suspend all operations here, and have accordingly written Capt. Tregoweth to stop all works and put everything in a state to prevent waste or loss. The reason for this resolution was, the committee to stop the Mount Rose at the present moment was the great influx of water, altogether too much for the present pumping gear, and the erection of new and powerful machinery to cope with it would incur a heavy cost that the committee do not at present feel justified in making. The committee have given Capt. Tregoweth notice that his services will not be required after the end of January, thanking him for past services, and stating that the sole reason we part from him is the temporary stoppage of works at Mount Rose. During the month the O'Connell claim, as carried on the protective works at Mount Rose as advised by Capt. Bryant, so as to leave the mine as safe as possible.

**DEVALA MOYAR GOLD.**—Jan. 14: At Strathearn reef we have driven 100 ft. south along the course of the reef, but have had no reef the last three weeks; I intend to stop driving in this direction, and to cross-out both ways east and west. The drive north has not progressed so well; we are driving on a big reef, which contains a little gold. Although we keep the windlass going night and day we cannot wind up as much dust as can be broken in the two drives. At Salomon's reef the tunnel has been driven 8 ft. only during the week, as we have been less chiefly engaged timbering up. There is 101 ft. tunnel and 90 ft. open cutting. The shaft is going down well, and good prospects have been obtained from the quartz in the bottom. I am making preparations for crushing 30 to 40 tons from different places.—Harewood Tunnel: I mentioned last week that I had had to take this from the contractors. With fresh arrangements I hope to reach the reef in a few weeks.

**FORTUNA.**—Jan. 30: Canada Inco Mine: The lode in the 70, driving west of San Pedro, is still disarranged by the cross-cuts. The 90, driving in the same direction, has opened up good lead ground during the past fortnight; it is not quite so good at present, yielding 1/2 ton per fathom. The lode in the 120, driving east of O'Hea's engine-shaft, consists of decomposed granite; the ground is wetter, and also easier for driving. The lode in the 100, driving east of Lowndes' shaft, is wide and kindly, yielding good lumps of ore, worth 1/2 ton per fathom.—Los Salidos Mine: In the 175, driving west of Taylor's engine-shaft, the lode is small, and contains spots of ore only. In the 175, driving east of Taylor's engine-shaft, spots of ore have been met with in the past few days, but not enough to value. The 160, driving in the same direction, is passing through a very hard bar of ground. The lode has diminished in size and value, its present worth being 1/2 ton per fathom. The lode in the 145, driving east of Taylor's engine-shaft, was for a few days disturbed by a small cross-cut; it is

again opening well, and producing 2 tons per fathom. In the 130, driving east of Taylor's engine-shaft, the lode has been fluctuating in value of late, yielding 1/2 ton per fathom, and the ground is hard. In Virginia's mine, sinking below the 145, good progress continues to be made. The lode in Belldo's mine, sinking below the 130, is laying open valuable stoping ground; worth 2 tons per fm.—San Anton Mine: In the 65, driving east of Henty's engine-shaft, the lode is large and kindly-looking, but not containing sufficient lead to value. The lode in the 55, driving west of Henty's engine-shaft, is regular, and has opened up good stoping ground, but has failed a little the last few days, its present value being 1/2 ton per fathom. In the 45, driving west of Henty's engine-shaft, the lode is small, and of no value; a bar of broken up ground traverses the end. The lode in the 30, driving east of Tesor's engine-shaft, is of a promising character, but not rich in mineral; yielding 1/2 ton per fathom. In the 30, driving west of Tesor's engine-shaft, the lode is at present disarranged, though the tributors are doing well a little distance ahead. The lode in Monte's mine, sinking below the 45, is large, and contains barytes and lead ore; worth 1/2 ton per fathom.

**HOOVER HILL GOLD.**—Jan. 24: The vein in bottom of Gallimore shaft about the same as when last reported. The north drift at the 170 having got beyond the shoot of ore into poor ground has been stopped. Fair progress is being made in the mine below the 170 south. The vein is much flatter than usual, and is looking fairly well. The stopes from the 130 continues to yield the usual quantity of fair grade ore. Cutting down and timbering the Brio's shaft is being proceeded with. In driving south from the Hawkins' open cut some leaders of ore have been encountered, which have been followed to within about 20 ft. of the Hawkins' shaft, and we purpose boring through to this shaft, the object being of raising the ore and dirt. The streaks of ore cut in the 70 cross-cut, east of Hawkins' shaft, are being followed to the north and south. In both cases the ore became poor within a few feet; it is, however, being followed in the hope that there may be an improvement. There is nothing new to note with regard to the other prospecting work which is being carried on. We have had a very cold spell of weather, the thermometer falling below zero, but it did not, I am pleased to say, cause more than a few hours delay in the mill.

**LAKE SUPERIOR NATIVE COPPER.**—Captain Williams, Jan. 14: In No. 1 level, south of No. 2 shaft, on the course of the lode, we have advanced 22 ft.; the lode continues regular and well defined, but still without native copper. In No. 2 level, south of No. 2 shaft, on course of the lode, we have advanced 18 ft. 6 in., producing stones of copper glance, and occasional pieces of native copper; this end looks very promising indeed. No. 2 shaft sinking below the No. 2 level, on the course of the lode, has been sunk 5 ft. 7 in.; in the 120 ft. sink the lode has changed in appearance, and become much harder, promising well for native copper. In No. 3 level, south of No. 1 shaft, on the course of the lode, we have advanced 19 ft. 6 in.; the lode in this end has been disturbed for some time past, but is now more regular and settled, and is now approaching the head of native copper gone through in the levels above. In No. 1 stopes in back of No. 1 level, north of No. 1 shaft, we have completed taking down part of the lode left standing on footwall in driving the level for 90 ft. in length; 1 find the lode averages 9 ft. wide, of very good mill work. In No. 2 stopes in back of No. 2 level, north of No. 1 shaft, we have the stopes in good working order, with still and passer in place for 60 ft. in length; lode 10 ft. wide, of good mill work; these two stopes will keep the mill going continually, so soon as we have new shaft-house and skip-road completed. The framing for this shaft-house is ready to go in, and everything is also ready to put in our skip-road. We commence this work to-morrow, and I am in hope to have everything in running order before the end of the month; when this is done we shall be able to supply the mill with a much better supply of good quality rock, as the poor will be separated before it goes to the mill. The lode in No. 2 level, south of No. 2 shaft, behind No. 4 winze, continues to produce very good quality rock, and appears to go back behind No. 1 shaft, if so we have a good run of ground to open at this point, which will pay well for stoping. The shaft at Harbour at Amygdaloid belt sunk 5 ft. 6 in.; this point continues to look well, producing heavy shot copper for 4 ft. wide in shaft, still leaving a part standing in the hanging, which also looks well. So soon as we reach the depth of 63 ft. we shall cut through the entire width of belt, and drive on it, when I have no doubt very good results will be obtained. The mill is now running regularly by day since the New Year (Jan. 1).

**LA PLATA.**—The latest advices from Leadville show that the shaft has been sunk to the bottom level, timbered, and placed in good working order, which greatly facilitates the working of the mine, and reduces the cost of ore extractions by about 20 per cent., or \$2 per ton. The prospects of the mine are good, and the usual output will not doubt be maintained. The most southerly workings promise to open some good stoping ground, and there is also a good showing of ore in the western workings, which is making in a northerly direction in unexplored ground. There is also good ore making down below the bottom level, and it has been decided to sink the main shaft a further depth of 100 ft. to drain and mine this. In the first three months of the past half year 2122 tons of ore was mined, costing \$11.42 per ton; but during the last three months 3503 tons was mined at a cost of \$9.04, or a difference of \$2.38 per ton, equal to a saving of \$8337.14 on the 3503 tons, which already more than covers the entire cost of the shaft improvements. The shaft improvements are now in good progress, competing with other smelters. The new furnace is doing good work, and with the present arrangements more ore is smelted with the five furnaces than formerly with six.

Taking the smelting of the first six months of the present year, the average daily work was 139 tons or 21 tons per furnace; while for December the daily smelting was 160 tons, or 32 tons per furnace. The improvements at the smelting works consist of an iron flue 200 ft. long, with connecting pipes to each furnace, a brick flue 300 ft. long, and a stack 90 ft. high. The cost of smelting has since the completion of the improvements, been very considerably reduced, and with the value of the additional flue-dust collected, which amounts to 4 tons per day against 1 ton formerly, makes a very large monthly saving, sufficient to cover the amount expended in improvement in less than three months, and it will be understood that the changes affected were absolutely necessary. The accounts for the six months to Dec. 31 are expected very shortly, and will show that the policy adopted has resulted in very important economies being effected, and has placed the company's business on a good footing for profitable working both in the mining and smelting departments.

**LINARES.**—Jan. 30: Pozo Ancho Mine: The lode in the 133, driving west of Warner's engine-shaft, is opening up a valuable piece of ore ground, worth 2 tons per fathom. In the 115, driving in the same direction, the lode is strong and regular, yielding 1 ton in a fathom. The lode in the 135, driving west of Pell's engine-shaft, is small and unproductive. In the 135, driving east of Pell's engine-shaft, the lode is changed, and is at present rather small, producing 1/2 ton per fathom. In the 135, driving south of Pell's engine-shaft, the cross-cut has intersected the lode; it contains good stones of ore, but not enough to value. The lode in the 120, driving east of Pell's engine-shaft, is compact and regular, yielding 1 ton in a fathom. The lode in the 105, driving east of San Francisco shaft, is not quite so productive as it was, yielding 1 ton per fathom. In Pell's engine-shaft, sinking below the 135, the men have made a good beginning with this important work. In No. 222 winze, sinking below the 65, there is a good lode, worth 2 tons per fathom. The usual quantity of ore being sent into the stores in the past month during which time an unusual change occurred in the stopes, and they are yielding moderately at present. The surface works are kept on very steadily, and the machinery is in good condition. We estimate the raisings for February at 250 tons.—Quintones Mine: The lode in the 115, driving west of Taylor's engine-shaft, is strong and promising. The lode in the 115, driving east of Taylor's engine-shaft, has improved a little in the past week; its present worth is 1 ton per fathom. In the 100, driving in the same direction, a good length of rich lode is being opened up, worth 1 ton per fathom. The lode in the 90, driving east of Taylor's engine-shaft, is strong and regular, yielding good stones of ore, valued at 1 ton per fathom. The lode in 65, driving east of Judd's shaft, is of a promising appearance, and produces good stones of ore, worth 1/2 ton in a fathom. We estimate the raisings for February at 100 tons.

**MONTANA.**—Telegram: Mr. Geo. Atwood, Feb. 5: Ten stamps, working 25 days, crushed 257 tons of ore, yielding \$14,170 for January.

**NEW EMMA.**—George Cullina, Jan. 16: Since my report of the 9th inst. the east level has been advanced 12 ft.; distance from incline 294 ft.; faces in very hard rock. Have stopped this level, as it shows no mineral whatever. Raise is now up 44 ft., with no change. North-west level advanced 12 ft., making total distance of this level 50 ft. Rock in face about the same as per report of 9th inst. Water is pumped out of shaft, and shall commence sinking for another level to-day. Have let the sinking by contract—\$37.50 per foot, this company furnishing all material, powder, caps, fuse, &c., which is much cheaper than by day labour as heretofore, and I firmly believe another level will show large and rich bodies of ore.

**PESTARENA UNITED.**—Returns for January: Pestarena district, 196 ozs., 11 dwts. 12 grs. from 414 tons of ore, equal to 9 dwts. 12 grs. per ton. Val Topa district, 142 ozs. 7 dwts. 18 grs. from 308 tons, equal to 9 dwts. 5 1/2 grs. per ton. Total, 338 ozs. 19 dwts. 6 grs. of gold obtained from 722 tons of ore amalgamated, showing an average yield of 9 dwts. 9 1/2 grs. to the ton.

**PIERREFITTE.**—Manager, Feb. 4: South Mine: The south-east level end, No. 1 adit, still continues hard, and not producing enough ore to value. The east or cross-out below (intermediate south-east) is looking well, there being some splendid blende and fine grain lead. We propose commencing this week to gradually turn the end towards the vein of the lode; we shall then be cross-cutting and driving together. I have great faith that the lode will here turn out to be rich. The north-west level (intermediate) is not quite so good as it was. The south-east level (No. 2) is very hard and not rich. The chimney and the stopes about the same as usual. I have put a pair of men to open out a little north-west on the stopes above No. 1 level, where we have some pretty good ore in sight, so as to prove this ground. We may get find good ore in this part of the mine. The surface level has been advanced about 3 1/2 fms. during the past month.—North Mine: The stopes below the Nos. 1 and 2 levels continue to yield good paying ore, and I cannot see any alteration in its value. Rather extraordinary progress has been made lately in driving the No. 2 level; this is principally owing to the ground becoming easier, where we met with a branch of the slide crossing the lode, 4 1/2 fms. being drifted in the past month. The main part of the slide is about 3 fms. further ahead. We are still driving outside the lode, but we shall sink it.

**POTPHILL AND COLONIAL GOLD.**—Dec. 18: Total quartz crushed for the month ending Nov. 25, 1723 tons; total gold obtained, 451 ozs. 6 dwts.; average per ton, 5 dwts. 5 grs.; receipts (including 6334, 165, 74, obtained from tributors), 12521, 115, 30; payments (including 4195, 58, 93, paid for firewood), 14471, 125, 104; loss, 1954, 15, 74; balance credit carried forward to next month's account, 5961, 15, 94.

**POTPHILL GOLD.**—Feb. 5: Annexed I beg to hand you copy of telegram just received from Mr. Scriven, who is now at Trinidad:—"Twenty stamps are running. Mine new good."

**RHODES REEF GOLD.**—Jan. 14: Your suggestion to sink a shaft was a good one, as it (the shaft) would cut through any flat lying reef over the tunnel; and, secondly, ventilate the tunnel. I sunk one shaft on No. 2 tunnel before I received your suggestion, and afterwards I sank one on No. 5 tunnel. The former passed through a large reef, which, however, was worthless, and the latter struck nothing, but it has been useful for ventilation. During the week No. 4 tunnel has been driven 19 ft.; total 471 ft.; No. 3, 22 ft.; total 493 ft.; No. 1, 15 ft.; total 226 ft.; and the new drive near the mill 46 ft.; total 31 ft. I stopped Nos. 2 and 4 tunnels this morning, as they had passed the line of reef considerably. I am getting a little gold in the new drive, and there is a chance of striking a good reef with No. 1 tunnel.

**R**



**Ticket:** The west drift from the north cross-out bottom level has been advanced 6 ft. in ore of rather low grade; suspended at this particular point for the present. The south drift from the bottom level has been advanced 6 ft.; total 40 ft.; the seam of ore reported in my last has improved considerably, and is now about 18 in. wide, and looks favourable. The stopes at the end of the south drift third level do not look quite so well, but are still producing some good ore which will be shipped as a special lot. We have resumed work on the old stopes between the 40 and 55 ft. where there are large quantities of low grade ore, which we think will assay from \$20 to \$30, for which we will get 40 per cent. of its assay when at the furnace. Have shipped 128 tons of ore this week, and have 21 men at work.—**Lord Byron:** The cross-out from the end of tunnel has been advanced 4½ ft. this week without change; total, 47½ ft. Griggs and Co.'s cross out has been advanced 6 ft.; total, 76 ft.; a few feet more will complete this cross-out.

**Telegram, Feb. 5:** The roads have been blocked with snow all the week, consequently no shipments of ore have been made.

**UNITED MEXICAN—Capt. Hay, Jan. 7:** Mine of San Cayetano de la Ovejera: In the front No. 2 of Santa Rosa west the ore in this end is still rather poor; but at the end of last week some more favourable appearances were discovered. In the front No. 2 of Santa Rosa the ore is of good quality, and the lode measures 50 centimetres in width. In the front No. 1 of San Juan west the quality and quantity of the ore have decreased a good deal, but we continue to find appearances of ore in the lode. In the front No. 2 of San Juan the lode is still unproductive. In the front No. 3 of San Juan east the ore is still of very good class, and the lode has increased to 2.10 metres. In the front No. 3 of San Juan west the lode has a breadth of 1.15 metres, of which only a costra 15 centimetres broad is in ore; but that of a good class; in last public sale five cargoes were sold for \$232, and the best part of last week's bonito came from the strip. In the front No. 3 of San Juan east the lode is 1.50 metres broad, with the ore ramified, but more productive than it was in the previous week. In the pozo No. 3 of San Juan the lode has increased to a breadth of 1.90 metres, but only 30 centimetres thereof to the base are in ore of a fair class. In the pozo No. 4 of San Juan ore of a low ley is ramified over 1.75 metres, the width of the lode. In the pozo No. 5 of San Juan the lode is 78 centimetres broad, and to the alto we have just discovered a strip of good ore, which seems to be the continuation of that found in front No. 3 of San Juan west. In pozo No. 6 of San Juan the ore has improved, and is now of a fair class, and the lode is 1.06 metres wide. This winze will soon hole in front No. 2 of San Juan east. In the front No. 9 of San Andres west this end has not improved since the previous week; we continue to discover good appearances.

In the front No. 10 of San Andres west the ore is fair in our advance; the lode measures 1.35 metres in width, inclusive of 58 centimetres of good ore. This end started from the base of the west side of pozo No. 2 of San Andres, the cross-out from this winze having reached the lower wall. We have found that the lode in the winze measured 2.55. The lode we are working on seems to be another body of ore stuck to the lode of the winze, which is barren. As soon as we have advanced some distance in end No. 10 we intend to sink a winze on the ore at some distance from pozo No. 2. In the pozo of San Antonio the lode is again getting narrower, but the appearances continue to appear. We sold in Rosette on the 3rd inst. about 277½ cargoes for \$3917; 272 cargoes were sent to Duran, and 1 cargo 10 arrobas 23 lbs. of bonito were sold; the total extraction for the week was, therefore, 551 cargoes of hacienda ore. In the front of San Martin the strip of ore-looking stuff continues with the same good appearance as heretofore. I firmly believe that if we find ore, even of a low ley, in the end of San Martin, it will materially improve the prospects of the new concern. It is, therefore, we have pushed on this work, as our probability of success increases the deeper we get under the surface. Returns from the mine of San Cayetano de la Ovejera for the week ending Jan. 5, 1884, \$6107; outlay, \$2338.—**Quick-silver:** My stock of quicksilver in Duran on the 5th inst. was 26,974 lbs. Estimated value of tortas and ores on hand and under reduction, \$68,400.

**VICTORIA (LONDON).—Dec. 18:** Total quartz crushed for the month ending Dec. 6, 2896 tons; total gold obtained, 582 ozs. 5 dwts. 12 grs.; average per ton, 8 dwts. 6 grs.; receipts, 1476½ ds. 8d.; four weeks' mine cost, 1352½ ds. 9d.; profit, 123½ ds. 11d.

#### THE DISCOVERER OF THE FAMOUS COMSTOCK LODE—"OLD PAN CAKE."

The other day, writes Gen. J. S. Bristin, I stood by the grave of "Old Pan Cake," up at Bozeman. And who, do you enquire, was "Old Pan Cake?" A man known throughout the civilised world, a man famous in all lands, and whose name will live in history long after presidents and kings are forgotten, a man who, if he had kept all he owned, would have been the richest man in the world, and beside whom the Vanderbilts, Mackays, and Goulds of to-day would be mere pignions.—Henry Thomas Paige Comstock, the owner of the world-known Comstock lode of Nevada. Poor Old Pan Cake! He lay there quietly in his 6 ft. of mother earth, and his grave was unmarked—he, the richest man the world ever knew. It seems but yesterday he was over at Washoe in the flesh, and yet he has been dead these 13 years—so fast do we grow old. Let me see, says the General in an interesting article in the Philadelphia Times, if I can tell you the story. They called him Pan Cake because he was so busy, or always imagined himself so busy, he had no time to bake bread. With a spoon in hand he would beat up some flour into a batter and bake a pan cake, his dreamy eyes often fixed the while upon some distant lofty peak, and his mind busy with speculation as to how much gold and silver it contained. His was a dream of wealth, at last found, but never realised by him.

Yet he was not the discoverer of the Comstock lode. I know this statement will astonish many, but it is, nevertheless, true, no more did Comstock discover Comstock than Americus discovered America. There are some great lies in history. Comstock was toiling over in American Flat ravine when Peter O'Riley and Pat McLaughlin discovered the Comstock lode. John Bishop, a miner, spoke to "Old Virginia" (James Finney), another old miner, about indications seen by him at Gold Hill. Finney said that he had noticed them when hunting deer, but attached no importance to them. Old Virginia told McLaughlin and O'Riley in a casual conversation, and they determined to go and see for themselves. The parties were then all working in Six-mile Canon, and Old Virginia was drunk most of the time. One day—Saturday, Jan. 28, 1859—Old Virginia being sober, O'Riley, McLaughlin, and Finney started over to Gold Hill. They prospected, but did not find much. One pan yielded 15 cents, another 8 cents, and a third 5 cents, but there was little no water to work with. Virginia followed the ravine up, and presently came back and said he had found plenty of water. They then decided to locate. McLaughlin and O'Riley set to work well up toward the head of the ravine. They used rockers and got but small pay—\$1.50 to \$2 per day. So they worked away until June 1, 1859, when, becoming discouraged, they were on the point of abandoning the mines and going to Walker River. To gather water they commenced digging a hole for a reservoir, and when 4 ft. down they struck decomposed ore at the point where the Ophir Mine now is. The old-looking black dirt did not at first attract their attention, but as is the custom of miners to try everything, McLaughlin put some of the dirt and ore into his rocker and washed it out. The result was astonishing. The bottom of the rocker was literally covered with fine gold. Again and again they tried, and with the same result. They were taking out gold at the rate of \$50 per day. Some of the harder lumps of ore were beaten in a hand mortar, and one man took out \$100 per day.

On the evening of the great discovery "Old Pan Cake," H. P. T. Comstock, who had been out on the mountain hunting his pony and found him, came home by the mines. His long legs were sweeping over the tops of the sage brush as he rode up to where the miners were at work. When he saw the gold his eyes bulged out with astonishment, and he at once began negotiating for an interest. He said the ground on which the miners were working was his, and the water they were using was also his. He had located the land, 160 acres, for a ranch, and the spring from which the water came he had taken up for mining purposes. Whether this was so or not the miners believed him, and not wishing any trouble put down Comstock and his friend, Emanuel Penrod, for an equal interest with themselves. This being arranged Comstock declared that they should give him 100 ft. separate for the use of the water. He said he not only owned the land but the water also, and as they had already acknowledged his right to the land they could not work it without water, and must give him another 100 ft. This was done, and the 100 ft. thus segregated was the Spanish Mine, and afterwards sold for \$1,000,000.

Comstock had some show of right to the water, as he and Penrod had the year before bought an old set of sluice-boxes from old Joe Caldwell and the water from a spring. It was from the Caldwell springs the water came to work the first discoveries on Gold Hill. I do not believe Comstock had any right to the land. If he had ever taken it up as a ranch it was never recorded, and was void. After he had obtained his interest with O'Riley and McLaughlin he bragged so much about his mines that people began to call them the Comstock Mines. They had first been known as Gold Hill, then Ophir, and lastly as Comstock. The original locators were Peter O'Riley, Patrick McLaughlin, H. P. T. Comstock, E. Penrod, and J. A. (Kentuck) Osborn. These men owned the land from which more than \$300,000,000 of gold and silver has been taken. Old Virginia (Finney) made a location adjoining Ophir, and claimed it as the original lode. It was very base ore, and dipped toward Ophir. Old Virginia

sold his claim for \$25, a pony, and a bottle of whisky. The parties who bought it got \$60,000. John Bishop bought Old Virginia's gravel claims, and through them got in on Claim Central No. 1, afterwards part of the California, and worth millions. Bishop paid \$100, put up an arrastra, and sold out for \$4000, thinking he was making big money. The men to whom he sold, sold out for \$1800 a foot, thinking they were making big money, and the same land afterwards sold for \$50,000 per foot. John Bishop owned 100 ft., and is still a poor miner. The 100 ft. segregated by O'Riley and McLaughlin to Penrod and Comstock they sold to James Walsh and Gabriel McDamydo.

Many stories have been told of the amounts paid for these rich claims, but I have the deeds beside me, and can set all disputes at rest. The first deed is dated Aug. 12, 1859, and is from Comstock to James Walsh. It reads:—"For and in consideration of \$10 to me in hand paid, and for the further consideration of ten thousand nine hundred (no figures) to be paid by James Walsh by him to me, I have this day bargained and sold." Then follows his description of Ophir, his interest in 1400 ft. of Comstock, his undivided half of 200 ft. in California, his interest in the mining claims on Six Mile Canyon diggings, his interest in the water rights of Caldwell Springs, his right to a ranch on which the Comstock lode and the village of Ophir is located, together with the springs in the lower part of said ranch, and the land, 160 acres, where Virginia city now stands; also "my right to all surface diggings on the 1400 ft., and my right to all the improvements, animals, farrastras, and all other property," so the strange document goes on. The consideration paid is \$11,000, and the property deeded subsequently rose to a value of over \$200,000,000.

The fate of the discoverers of the greatest mine on earth was nearly the same. Old Virginia (James Fennimore, but nearly always called Finney) was thrown from a bucking mustang he was trying to ride, and killed at Dayton, July, 1861. He was a native of Virginia State, and left \$3000. Nobody knows who his relatives were. Inasmuch as his deeds were signed Finney, while his real name was Fennimore, I have often wondered if he ever parted legally with his property. He was much addicted to drink, and not responsible often when he signed his name. As an evidence of this the parties who bought his claim to Ophir could never get from him his original notice of location. It was a matter of speculation where his claim began and where it ended. One day they took Old Virginia, and locked him up in a big tunnel with an iron gate, and swore they would not let him out until he told where his original certificate of location was. Next morning Old Virginia was dry, cross, and sober. He said that if they would let him out and give him a drink he would get the certificate. They gave him a tumbler of whisky, and then he marched up the hill, lifted a stone, and from beneath it drew forth the original notice of location dry, and snugly folded away. They seized the coveted document, and Old Virginia's last right to the greatest mine on earth faded away. Patrick McLaughlin, part owner of the Comstock, at last accounts was a cook in California. Peter O'Riley, who got \$40,000 for his share, went crazy. The spirits showed him a mountain in which there was a greater mine than Comstock. He dug and dug without a sign of ore. At last the mine caved in on him, and nearly killed him. They dug him out, and put him in an insane asylum, where he soon afterward died in poverty.

Henry Thomas Paige Comstock, the great leading spirit of the Comstock lode, committed suicide near Bozeman, M. T., by shooting himself through the head with a revolver. He was on his way to the Big Horn mountains, where he said there was more silver than in Nevada. He had brooded much over his losses, and was no doubt of unsound mind when he shot himself. Of the vast fortunes deeded away by Comstock and his friends one may gain some idea by looking at the returns of the mines. In 1873 the yield of the Comstock mines was \$21,940,125, and in 1874, \$22,242,275. In thirteen years \$220,000,000 was taken from the Comstock lode, an average annual yield of \$3,750,000. The lode a few years ago for commercial purposes was valued at \$175,147,200. From Ophir was taken \$20,000,000; from Savage, \$15,750,000; Hale and Norcross, \$8,000,000; Cholar Potosi, \$16,000,000; Gould and Curry, \$15,000,000; Yellow Jacket, \$15,000,000; Crown Point, \$20,000,000; Belcher, \$25,000,000; Overman, \$13,000,000; Imperial, \$2,500,000, and many others. I stood by his grave, he once the owner of these untold millions, and there he lay, alone, uncared for, without even a stone to tell whose dust mouldered below.

#### GOVERNMENT INSPECTION OF MINES.

The Collieries and Metalliferous Mines of the Kingdom are under the inspection and control of the officers mentioned in the subjoined list, which gives the names, addresses, and dates of appointment of (1) the chief inspectors; (2) the inspectors assisting; and (3) the secretaries of the Boards of Examination, with the months in which the examinations for Certificates of Competency are usually held. There is also shown the districts assigned to the several inspectors (A) under the Coal Mines Act, and (B) under the Metalliferous Mines Act. The whole is arranged according to the seniority of the chief inspector of the district:—

- 1.—Joseph Dickinson, South Bank, Pendleton, Manchester (1850)
- 2.—J. S. Martin, Prestwich, Manchester (1873)
- 3.—M. W. Peace, King-street, Wigan (December)

- A.—Manchester district, comprising North and East Lancashire and Ireland
- B.—Cheshire, Sussex, Ireland, and North and East Lancashire, except the detached part of North Lancashire, Kent, Middlesex, and Surrey

- 1.—Thomas Wynne, Gnosall, Stafford (1852)
- 2.—A. R. Sawyer, Basford, Stoke-on-Trent (1879)
- 3.—Joseph Knight, Newcastle-under-Lyne, Staffordshire (June)

- A.—North Staffordshire district, comprising North Staffordshire, Cheshire, and Shropshire
- B.—North Staffordshire

- 1.—William Alexander, Glasgow (1855)
- 2.—J. M. Ronaldson, Pollokshields, Glasgow (1875)
- 3.—Stuart Foulis, 135, St. Vincent-street, Glasgow (November)

- A.—Scotland, West district, comprising counties of Argyle, Ayr, Dumfries, Dumbarton, Renfrew, and portions of Lanark and Stirling
- B.—Argyle, Ayr, Dumfries, Dumbarton, Kircudbright, Renfrew, Wigtown and portions of Lanark and Stirling

- 1.—Thomas Evans, Pen-y-bryn, Derby (1855)
- 2.—A. H. Stokes, Greenhill, Derby (1874)
- 3.—Wm. Saunders, The Wardwick, Derby (October)

- A.—Midland district, comprising counties of Derby, Leicester, Nottingham, and Warwick
- B.—Derby, Leicester, Northampton, Nottingham, Oxford, Warwickshire, Berkshire, Buckinghamshire, Cambridge, Hertfordshire, Huntingdonshire, and Rutland

- 1.—Ralph Moore, Rutherglen, Glasgow (1852)
- 2.—J. T. Robson, Cambuslang, Glasgow (1873)
- 3.—Robert Calder, 286, Renfrew-street, Glasgow (May)

- A.—Scotland, East district, comprising counties of Clackmannan, Perth, Kinross, Sutherland, Edinburgh, Fife, Haddington, Linlithgow, upper and middle wards of Lanark, and part of Stirling
- B.—Clackmannan, Edinburgh, Fife, Haddington, Kinross, Linlithgow, Perth, Sutherland, and portions of Lanark, Stirling, Shetland, and Inverness

- 1.—Thos. E. Wales, Swansea (1864)
- 2.—E. W. Randall, Penarth, near Cardiff (1883)
- 3.—C. H. James, 5, Courtland-terrace, Morthy Tydfil (January)

- A.—South Wales district, comprising counties of Carmarthen, Pembroke, and portions of Brecon and Glamorgan
- B.—Carmarthen, Glamorgan, and Pembroke

- 1.—Frank N. Wardell, Wath-upon-Deane, Rotherham (1867)
- 2.—John Gerrard, Wakefield (1874)
- 3.—John R. Jeffery, Solicitor, 5, Piccadilly, Bradford (June)

- A.—Yorkshire and Lincolnshire district, comprising Yorkshire, exclusive of North Riding, and Lincolnshire
- B.—Yorkshire, exclusive of North Riding

- 1.—James Willis, Newcastle-on-Tyne (1871)
- 2.—J. B. Atkinson, Stocksfield, Newcastle-on-Tyne (1873)
- 3.—George Southern, The Mining Institution, Newcastle-on-Tyne (January)

- A.—Newcastle district, comprising counties of Cumberland, Northumberland, and part of Durham
- B.—Cumberland, Northumberland, and the detached part of North Lancashire

- 1.—C. Le Neve Foster, Llandudno (1873)
- 2.—Anglesey, Brecon, Cardigan, Carmarvon, Denbigh, Flint, Merioneth, Montgomery, Radnor, Shropshire, and the Isle of Man
- 3.—Thomas Bell, Durham (1873)—In charge, 1873

- 1.—W. N. Atkinson, Shilcliffe Hall, Durham (1873)
- 2.—G. W. Bartlett, Cleveland Parade, Darlington (July)
- 3.—Durham district, comprising county of Westmoreland, part of Durham, and North Riding of Yorkshire

- A.—Durham, Westmoreland, and North Riding of Yorkshire
- B.—Durham, Westmoreland, and North Riding of Yorkshire

- 1.—Henry Hall, Rainhill, Prescott (1873)—In charge, 1875
- 2.—J. L. Hadley, Chester (1874)

- 3.—M. W. Peace, King-street, Wigan (June)
- A.—Liverpool district, comprising counties of Anglesey, Denbigh, Flint, and West Lancashire
- B.—West Lancashire

- 1.—Thomas Cadman, Lydney, Gloucestershire (1873)—In charge, 1876
- 2.—R. Donald Bain, Newport, Monmouthshire (1877)
- 3.—J. T. Thomas, Coleford, Gloucester (July)

- A.—South-western district, comprising the counties of Devon, Dorset, Gloucester, Monmouth, Somerset, and portions of Brecon and Glamorgan
- B.—Eastern part of Glamorganshire, Gloucester, Hereford, Monmouth, part of Somersetshire, and Wiltshire

- 1.—R. J. Frecheville, Truro (1880)
- B.—Cornwall, Devonshire, Dorsetshire, and part of Somersetshire, Hampshire, and Isle of Wight

- 1.—W. B. Scott, Parkdale, Wolverhampton (1873)—In charge, 1883
- 2.—W. H. Pickering, Compton Road, Wolverhampton (1883)
- 3.—W. Blakemore, Sheffield, near Walsall (January)

- A.—South Staffordshire district, comprising South Staffordshire and Worcestershire
- B.—South Staffordshire, Worcestershire, Bedfordshire, Essex, Norfolk, and Suffolk

CLERKS OF MINERAL STATISTICS.—Richard Meade (1841), Home Office; James B. Jordan (1858), Home Office.

#### MANUFACTURE OF CAST-IRON.

With a view to secure economy of weight of coal used, greatly diminished consumption of coke, the means of using on a large scale for the manufacture of cast-iron fuel hitherto unsuited for the production of coke and generally all kinds of fuel improvement in the quality of the cast-iron produced, treatment of minerals so highly sulphurous as to have been hitherto rejected diminished cost in the manufacture of cast-iron reduction in the dimensions of blast-furnaces, and diminished danger of accidents in blast furnaces owing to the cooling in the crucible and difficulties of observation of the working of the process some improvements have been designed by Mr. A. BRACONNIER, of Nancy, France, which consist in injecting through the tuyeres of a blast-furnace the gases issuing from any suitable coal gas generator by previously heating such gases elsewhere or external to the furnace at as high a temperature as required. These gases will have been by such means freed in the first instance from certain impurities injurious to the quality of the cast-iron, and especially of sulphur which is so difficult to be got rid of in all the processes of manufacture of iron and steel.

The economy of fuel in the blast-furnace depends on obtaining as high a temperature as possible in the zone of smelting in the crucible inasmuch as the more rapidly the materials are fused the fewer units of heat will be required to smelt a given weight thereof. The results obtained with the Schlesing gas blow-pipe leave no doubt as to the possibility of obtaining in the crucible of a blast-furnace extremely high temperatures by the simultaneous injection of hot air and heated coal gas issuing from a special generator by a blast direct from the blowing apparatus. Owing to the comparative moderate quantity of hot blast that would be required the apparatus may be modified so as to dispense with the reversing and the working of the valves.

By the use of continuous apparatus there will be given to the hot blast a constant temperature which can be regulated at will and the construction of the apparatus is facilitated by the equilibrium of pressure externally and internally of the passages through which the blast is to be heated will circulate. The coal to be employed ought to be fed into the apparatus by the best known means adapted to free it from the iron pyrites which is essential for the purification of the gases. The generator is or may be a small blast-furnace (with cold blast supplied) partly in the form of a cupola furnace and terminating at top in a dome in the centre of which will be adapted an inlet with two valves for the charging of the coal. A cock will be sufficient to maintain the equilibrium required for working the upper valve. In order to convey the gas to the heating apparatus there is used by preference a narrow conduit with fire-brick lining. The different qualities of smelting will be obtained by varying the proportion of the different element of coal, coke, and hot air.

**THE GOLD FIELDS OF THE TRANSVAAL.**—An interesting pamphlet, compiled by Mr. THOS. RICKARD, has been issued during the week through Messrs. Whitehead and Co., of Fenchurch-street. It contains information which will be valuable to capitalists and speculators at the present time, when so much attention is directed to the district, as the details are brought together in a compact form, and the labour of searching the Transactions of the Geographical, Geological, and other societies saved. The pamphlet will be fully referred to next week.

**THOUSANDS** of tons of galvanised iron are annually used in New South Wales for roofing purposes; but although the Colony is rich in the raw material every pound used is imported.

**NOVEL ELECTRO-METALLURGICAL MACHINE.**—It should have been stated in the advertisement in the Supplement of to-day's Journal that Prof. James Manes and Sons, of 9, Windsor Block, Denver, Colorado, are agents for the Morey and Spary ball pulveriser, that crushes and pulverises at the same time, and does as much work as eight stamps in a day, crushing either wet or dry.

The [first half-yearly issue of the Railway Companies Directory edited by Mr. Percy Lindley, giving the capital, authorised, received and expended, the revenue, dividends, and mileage, with classified lists of the directors and officers of the railways of the United Kingdom, will be published next week.

#### In the Supreme Court of the S. A. Republic.

BEFORE THE FULL BENCH.—In re BOK, N.O., Plaintiff, v. BARRETT BROTHERS, Defendants.

Pretoria, this 20th day of December, A.D., 1883.

**UPON HEARING MR. ADVOCATE JORISSEN** (with him Mr. Advocate De Villiers), of Counsel for the said Plaintiff, and Mr. ADVOCATE COOPER (with him Mr. Advocate Ford), of Counsel for the said Defendants, having read the pleadings and heard the several witnesses, IT IS ORDERED:—That judgment be and it is hereby given in favour of the Plaintiff against the said Defendants, with the costs of this suit, and that the Plaintiff's claim for the setting aside of the Inspection Report and Diagrams of the farm "Berlin," No. 343, situate in the Fieldcornetcy of Crocodile River, District of Lydenburg, is refused.

By order of the Court, P. J. KOTZE, Registrar.

**NOTICE IS HEREBY GIVEN TO ALL PERSONS DIGGING OR MINING FOR GOLD ON THE FREEHOLD FARM "BERLIN,"** No. 343 situate in the District of Lydenburg, Fieldcornetcy of Crocodile River, that whereas a concession of all mineral and mining rights on the said farm was granted by the Government to the proprietors by Deed of Concession, dated the 12th day of April, 1883, which concession was confirmed by Volksraad Resolution, No. 402, on the 21st day of June, 1883, and that whereas by judgment of the Supreme Court in the suit BOK, N.O., v. BARRETT BROTHERS, the Inspection-Beacons and Boundaries of the said Farm are the lawful Beacons and Boundaries thereof. All persons digging or mining for gold or otherwise trespassing within the said Beacons and Boundaries of the said Farm "Berlin," without the written permission of the Undersigned, will be HELD RESPONSIBLE for any SUCH TRESPASS.

Proprietors and Concessionaires of the Farm, "Berlin." Pretoria, 21st December, 1883.

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ALEX. KERLEY, Esq., 14, Great Winchester-street, London; and numerous others.

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In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH HERODSFOT MINING COMPANY.**  
TO BE SOLD, under the direction of the Registrar of the said Court, on Tuesday, the 12th day of February instant, at Eleven o'clock in the forenoon, at the North Herodsfot Mine, near Liskeard, within the said Stannaries, in One or more Lots, as shall then and there be determined on, and subject to such conditions as shall be then and there produced, the SETTS or LICENSES under which the mining operations of the said company have been carried on, together with the WHOLE of the

**MINING PLANT, MACHINERY, MATERIALS, AND EFFECTS.**  
INCLUDING  
24 inch cylinder ROTARY ENGINE, 7 feet stroke, with fly wheel and iron cage, and 10 ton boiler.  
8 inch cylinder VERTICAL ENGINE, with fly wheel and belt wheel, complete.  
24 inch Cornish CRUSHER, with iron drum for winding, complete; set of double jigg machines, with 40 feet 2 inch shafting; belt wheel, fly wheel, and stands; one round iron riddle, with small water wheel and driving gear, complete; small quantity of copper and lead ores; smiths' and miners' tools; new and old iron; brass; new and old timber; and a quantity of other effects new and old, together with the account house and office furniture.  
To inspect the above, apply to the Bailiff in charge at the Mine; and for further particulars at the office of the Registrar.  
HODGE, HOOKIN, AND MARRACK, Truro.  
(The Solicitors having the carriage of the proceedings in the said Matter.)  
Dated Registrar's Office, Truro, February 4th, 1884.

**IMPORTANT SALE OF VERY VALUABLE MINE MACHINERY, PLANT, AND MATERIALS.**  
WEDNESDAY FEBRUARY 20th, 1884, NOON.  
AT WEST WHEEL TOLGUS, ILLOGAN, CORNWALL.

**M. R. W. T. DAVEY, Auctioneer, Redruth,** has been favoured with instructions TO SELL BY PUBLIC AUCTION (in suitable Lots), at the above Mine, on Wednesday, February 20th, 1884, at Twelve o'clock precisely, the WHOLE of the first-class

**MACHINERY, PLANT, AND MATERIALS THEREON,** COMPRISING  
ONE 70 inch cylinder PUMPING ENGINE, stroke 10 ft. by 9, with first piece of main rod.  
FIVE excellent 10 ton BOILERS, with fittings.  
60 ft. SHEARS, with shives, braces, &c., shaft tackle and landing brace.  
ONE new PORTABLE ENGINE, with two 9 in. cylinders, by Sykes, London.  
ONE very powerful STEAM CAPSTAN.  
ONE, equal to new, 65 in. cylinder PUMPING ENGINE, stroke 10 ft. by 9.  
There has been about £600 recently spent to put this engine in first-class order.  
FOUR good 10 ton BOILERS with fittings. Iron and other balance bolts.  
ONE 60 ft. SHEARS AND PULLEYS.  
ONE PAIR of 12 in. cylinder horizontal WINDING ENGINE, with steam capstan and drawing gear, complete. This is a very high-class engine.  
ONE nearly new 10 ton BOILER, fitted with Galloway tubes.  
ONE nearly new 22 inch cylinder WINDING ENGINE, 6 feet stroke, equal beam, with crusher attached, complete.  
ONE 5 ton BOILER, with fittings.  
TWO DONKEY ENGINES, each of 7 in. cylinder.  
AIR-COMPRESSOR, 20 inch by 18. 7 ton AIR-RECEIVER.  
THREE BARROW ROCK DRILLS, two bars, one steam winch or ground lark engine.  
300 fathoms of 3 and 1 1/2 in. iron air pipes; 50 fathoms 8 and 9 in. water pipes.  
275 fathoms of pitwork of various sizes, from 8 to 20 in., including H and door-plates and poles.  
FIVE fathoms of very superior pitch pine rods, 12 and 14 inch.  
210 fathoms of 1/4 inch galvanised wire rope, equal to new; 400 fathoms steel wire rope; two pairs of Colom's automatic jigg machines, complete.  
ONE 20 foot WATER-WHEEL, 20 in. breast.  
Dry tube, wood sheds, also a considerable lot of old and new brass, new steel and iron, smiths' and miners' tools of every description, and a quantity of new and old timber and other materials in general use in mines.  
For descriptive particulars see Posters. And any further information may be obtained from Capt. GILBERT, the Manager; or from the Auctioneer, 4, Station Hill, Redruth.—Dated Jan. 29th, 1884.

**LEICESTER.**  
AT A NOMINAL RESERVE,  
VALUABLE LEASEHOLD BLUE LIAS LIME BEDS AND FREEHOLD BUILDING LAND.

**MESSRS. BAKER AND SONS WILL SELL, BY AUCTION,** at the Mart, Tokenhouse-yard, London, E.C., on Friday, February 22nd, at Two o'clock precisely, in One Lot (unless previously disposed of by Private Treaty), the

**VALUABLE EXTENSIVE MINING LEASES** Acquired by the Leicester and Evington Lime Company (Limited), together with 8 1/2 acres of VALUABLE FREEHOLD BUILDING LAND, adjoining the Humberstone-road Station of the Great Northern Railway, and in a rapidly improving suburb of the town.  
The leasehold property comprises the rights to dig and mine for coal, lime, gypsum, brick earth, or other minerals for a term of 32 years, at exceedingly low rentals and royalties, over an area of about 713 acres (with power of continuing as regards about 400 acres for a further term of 20 years), situate in the parishes of Evington, Humberstone, and St. Margaret's, Leicester, and close to the town of Leicester.

A large sum of money has been expended by the company in boring, resulting in the finding of valuable beds of brick earth, gypsum, and blue lias limestone, so well known for making the best hydraulic lime, and which exists to practically an unlimited extent close to the surface, and easily workable.

At present the limestone only is being worked, and is found to be equal in quality to the celebrated deposits of Barrow-on-Soar, being within a short distance of those quarries.

A large sum has been expended in the erection of kilns, engine and boiler house, construction of furnaces, and purchase of machinery and plant, all of which will be included in the sale.

Every arrangement for goods sidings and approaches to and from the railway adjoining the property has been made, and the lime works are in full operation and will be sold as a going concern.

The quality of the hydraulic lime and cement manufactured is unequalled, and the demand is daily increasing.

The whole offers an opportunity seldom met with for acquiring a lucrative and genuine business, which, by a judicious employment of capital, will realise large profits.

Particulars and conditions of sale may be had at the Mart; or of O. S. BURNAY, Esq., Solicitor, Leicester; Messrs. C. and S. STRETTON, Solicitors, Leicester; Messrs. WRIGHT, WILLIAMS, and JAMES, Solicitors, Leicester; Messrs. WRIGHT and BARRETT POPE, Solicitors, 4, Fenchurch-buildings, London, E.C.; Messrs. BOLLETON, Surveyors, Greyfriars, Leicester; and of the Auctioneers, 11, Queen Victoria-street, London, E.C.

**RUABON, DENBIGHSHIRE.**  
**GARDEN LODGE COLLIERY,**  
Situated about One Mile from Ruabon Station, on the Great Western Railway.  
TO COLLIERY PROPRIETORS, LIME MANUFACTURERS, CONTRACTORS, COAL, &c., MERCHANTS, AND OTHERS.

**VERY IMPORTANT SALE OF FIXED AND MOVABLE PLANT, FITCH PINE PIT HEADS, ENGINES, BOILERS, AND FITTINGS, TRAM, PERMANENT WAY, DOUBLE-HEADED AND OTHER RAILS.**  
With a large quantity of first-class Fire-clay.

**TUESDAY AND WEDNESDAY, 26th and 27th February, 1884.**

**M. R. WILLIAM WILLIAMS** has been instructed TO SELL, BY AUCTION, at the above-named Colliery, on Tuesday and Wednesday, the 26th and 27th days of February, 1884, commencing each day at Eleven o'clock precisely.

For further particulars see next week's Journal.

Catalogues may be had at the leading Hotels at Oswestry, Wrexham, and Ruabon; and on application to Messrs. F. and J. T. SUGLIFFE, Solicitors, Hebbel Bridge; Messrs. WALKER, SMITH, and WAT, Solicitors, Chester; Messrs. THOMAS, WADE, GUTHRIE, and Co., Chartered Accountants, 23, Brown-street, Manchester; or to the Auctioneer, at his offices, Salop-road, Oswestry.

**CILGWYN SLATE QUARRY, CARMARVONSHIRE.**

**TO BE SOLD, BY PRIVATE TREATY** (owing to the death of the principal Partner), this well-known QUARRY, which is held under a Crown lease, is considered to be the best Slate Quarry owned by the Crown. The rock is known to be of the finest and purest description, and has hitherto been worked at a large profit.

There is a large quantity of PLANT, including inclines, five fixed steam-engines and three locomotives.

The surviving partners will either join in a sale of the whole, or retain their interest as may be arranged.

Present proprietors have worked it since 1849.

Further information may be obtained from—

J. H. ROBERTS and THOMAS, Solicitors, 10, Castle-street, Carmarvon.

**FOR SALE, the PATENTS of VALUABLE INVENTIONS of the NEWEST PROCESS for IMPROVING, HARDENING, SOFTENING, EXAMINING, and WELDING STEEL and IRON.**  
The above process has hitherto been introduced in Germany and Switzerland only, and obtained numerous testimonials from the most important Establishments and Government Authorities; also two first-class diplomas: 30 per cent. net profit, at least, result in the manufacturing. No competition.  
For further particulars, apply by letter, in first instance, to "T. 24," care of Rudolf Mosse, Zurich, Switzerland.

**RAMSGATE.**

**FOR SALE, BY PRIVATE TREATY,** about 180 standard of PIT PROPS, 6 feet long, ranging from 6 inches to 8 inches diameter, now lying on the Quay at Ramsgate fit for shipment.

For particulars and to treat, apply to Capt. R. A. BUSTAL, R.N., Lloyds' Agent, Ramsgate.

**GOVERNMENT RAILWAYS OF NEW SOUTH WALES. CONTRACT FOR THE MANUFACTURE AND SUPPLY OF 150,000 TONS OF STEEL RAILS.**  
TO IRONMASTERS, MANUFACTURERS, AND OTHERS.

**THE GOVERNMENT OF NEW SOUTH WALES** being desirous of encouraging the development of the local Iron Mining, and Iron and Steel Manufacturing Industries, are prepared to RECEIVE TENDERS for the SUPPLY of

**ONE HUNDRED AND FIFTY THOUSAND TONS OF STEEL RAILS,**

To be manufactured in the Colony.  
Sealed Tenders marked outside "Tenders for the Manufacture and supply of 150,000 tons of Steel Rails" will be received at the office of the Agent General of New South Wales, Westminister Chambers, Victoria-street, London, S.W., not later than the 30th November, 1884, and at the Public Works Office, Sydney, not later than the 10th February, 1885, at which latter place the whole of the Tenders will be opened at 11 o'clock, A.M., on the day last named.

Each Tender must be accompanied by a Bank Deposit Receipt to the credit of the Commissioner for Railways in the sum of (£1000) one thousand pounds sterling, as a guarantee of good faith. Such deposit will be returned to the unsuccessful Tenderers as soon as the Tenders have been declared, but the deposit of the successful Tenderer will be retained as security for the due performance of the Contract. Tenders not accompanied by such deposit will be absolutely rejected as informal.

Printed copies of preliminary Specifications and Conditions of Contract may be obtained on application at the offices of the Commissioner for Railways, Sydney, and also from the Agent General of New South Wales, Westminister Chambers, Victoria-street, London, S.W.

Delivery of the rails is to commence not later than 1st December, 1886, and to be at the rate of not less than 15,000 tons per annum.

Contractors must give full information and particulars in their Tender as to the process of manufacture they intend to adopt, and also whether they will be prepared to manufacture and supply, at rates to be afterwards agreed upon, such points, crossings, fish-plates, and fastenings, &c., as may be required from time to time for the rails under this contract.

Contractors must state in their Tender whether they intend to manufacture the rails from native materials only, or whether, and to what extent, they intend to use imported material, giving a separate price per ton in each case.

As it is unlikely that intending Contractors will enter into an engagement of the above nature without first satisfying themselves by personal inspection as to the position and extent of the raw material in New South Wales required for the manufacture of iron, every facility and information on this subject will be afforded on application to the Under Secretary of the Mines Department, Sydney, or to the Agent General of New South Wales, Westminister Chambers, Victoria-street, London, S.W., and free passes will be allowed on the Government Railways of New South Wales to representatives of Tenderers wishing to ascertain the resources of the colony.

For the information of persons desiring to Tender, it may be stated that the official returns show that there were imported into New South Wales and Victoria (the two Colonies join each other, and are connected by Railway) within the last 10 years 1,250,000 tons of iron and steel, inclusive of the permanent way material required for Government and other railways constructed during the period mentioned.

CHAS. A. GOODCHAP, Commissioner for Railways.  
Department of Public Works, Railway Branch, Sydney, 1st October, 1883.

**ON SALE (CHEAP), TO CLEAR THE GROUND, GARSWOOD PARK AND LAFFAK-GARSWOOD COLLIERIES, ST. HELENS, LANCASHIRE.**

**THE ABOVE COLLIERIES,** belonging to Messrs. David Bromilow and Co., being worked out, the WHOLE OF THE PLANT IS NOW OFFERED FOR SALE, BY PRIVATE TREATY, and consists of—  
ONE SINGLE HORIZONTAL WINDING ENGINE, 30 in. cylinder, Cornish valves, 5 ft. 6 in. stroke, and 12 ft. drum for round ropes, and steam brake, by Robinson and Cook.

HORIZONTAL ENGINE, 24 in. cylinder, piston valve, 4 ft. stroke, 16 ft. fly-wheel, spur wheels for pumping, 3 to 1 pumping wheel, 14 ft. diameter, disc slide, rod, and L leg, by Couper Brothers.

HORIZONTAL ENGINE, 18 in. cylinder, slide valve 4 ft. stroke, 12 ft. fly-wheel, spur wheel 9 in. on face, single pumping crank 10 in. square, 4 ft. stroke, slide rod, L leg.

HORIZONTAL ENGINE, 14 in. cylinder, slide valve 24 in. stroke, fly wheel, 9 ft. spur wheel and drum.

ONE PAIR HORIZONTAL WINDING ENGINES, 21 in. cylinders, 4 ft. stroke, slide valves, with 9 ft. drum for round ropes.

Also, BOILERS and several other SMALL ENGINES, LOCOMOTIVE, MACHINERY, LATHES, PLANING and DRILLING MACHINES, TURNING and FITTING TOOLS, several large and small SAW BENCHES, THREE HUNDRED AND FORTY 6 and 8 ton WAGONS, NINETEEN RIVER FLATS (rigged), and about 2500 tons of good CANNEL, &c., &c.

For catalogues and further particulars, apply to D. BROMILOW and Co., Garswood Park Colliery, St. Helens, Lancashire.

**FOR SALE, the LLANHILLETH COLLIERY,** the property of HENRY POWELL, Esq., situate on the Western Valleys Branch of the Great Western Railway.

The situation of this property is in one of the best positions in Monmouthshire, within 13 miles of Newport, the port of shipment, and commands a large area of minerals, both the Bituminous and the Steam Coal Measures. The colliery is now in full work on the House Coal Measures.

There is also a pit sunk about 80 yards, fitted with very powerful pumping and winding engines and gear, suitable for winning and working the Steam Coal, a very large area of which, although not already taken, can be secured on very favourable terms.

For full particulars, apply to Messrs. BROWN and ADAMS, Guildhall Chambers, Cardiff; and to view the Colliery, to Mr. JEREMIAH, Llanhilleth Colliery, Crumlin, near Newport, Monmouthshire.

**GOING COLLIERY, near WALSALL, FOR SALE,** in consequence of the death of the Proprietor. Output from 100 to 120 tons per day, which might be considerably increased. The coal has a ready sale in the district. Capitalist with £2000 to £3000 would have easy terms of entry.

Apply to DUIGAN, LEWIS, and ELLIOT, Solicitors, Walsall, and 25, Waterloo-street, Birmingham; or CHARLES CAMWELL, Mining Engineer, Walsall.

**MINERAL PROPERTIES TO LET, and GOING COLLIERIES TO SELL,** containing Steam, Bituminous, and Anthracite Coals.

To treat, apply to Mr. DAVID THOMAS, Civil and Mining Engineer, Neath and Swansea.

**SECOND-HAND ENGINES—**

10-H.P. double cylinder PORTABLE ENGINES, by CLAYTON and SHUTTLEWORTH.

10-H.P. TRACTION ENGINE.

TWO 12-H.P. TRACTION ENGINES, with WINDING DRUMS.

8-H.P. TRACTION ENGINE, with WINDING DRUMS.

The above Engines, all in good condition, are FOR SALE, and can be seen on application to—

J. and F. HOWARD, BRITANNIA IRONWORKS, BEDFORD.

**FOR SALE.**

**TO COLLIERY AND QUARRY PROPRIETORS.**

**FOR SALE, PATENT IRON TIPPLER and IRON TRUCKS,** nearly new, being found unsuitable for the purposes required.

No reasonable offer refused.

Apply, by letter only, to "Q. T. X.," Messrs. Hepburn's, 7, Pancras-lane, London, E.C.

**IMPORTANT TO MINE OWNERS.**

**FOR SALE, a PLANT of ROCK-DRILLING MACHINERY** quite new, comprising—

ONE AIR-COMPRESSING ENGINE, with 12 inch cylinders, 3 and 3 1/2 in. rock drills, stretcher bars, &c., &c. Our Machines have been driving levels in hard rock 3 to 4 fathoms per week forward. Contracts undertaken.

Address,—WARSP and HILL, NOTTINGHAM.

**PIT SINKING, WINDING COAL, PUMPING, &c.**

**PORTABLE STEAM ENGINE FOR SALE,** with two 9 1/2 inch cylinders, and link motion reversing gear also gear to wind and pump.

A 9 H.P. VERTICAL STEAM ENGINE, with link motion reversing gear (winding drum if required).

A 6 ft. pan MORTAR MILL, VERTICAL ENGINE, and BOILER combined, on carriage and travelling wheels.

Apply to—

BARROWS and STEWART, ENGINEERS, DANDURY.

**STEAM BOILERS FOR SALE, SECONDHAND,** with and without Galloway Tubes, single and double riveted, working pressure of 60 lbs., 65 lbs., 70 lbs., and 80 lbs. steam pressure. VERY CHEAP.

FIVE BOILERS, 30 feet by 7 feet 6 inches diameter excellent order.

SIX BOILERS, 22 feet by 7 feet Galloway Tubes, "

FOUR BOILERS, 28 feet by 7 feet "

THREE BOILERS, 26 feet by 7 feet "

FOUR BOILERS, 24 ft. by 6 ft. 6 in. "

And other sizes in stock. Equal to new.

**WINDING ENGINES and COLLIERY PLANT** of every description, second-hand, in stock. VERY CHEAP. Write to—

H. HELLERWELL and CO., 4, NORTH CORRIDOR, ROYAL EXCHANGE, MANCHESTER.



# NOBEL'S DYNAMITE



Manufactured and sold by  
**NOBEL'S EXPLOSIVES COMPANY, LIMITED**  
(FORMERLY THE BRITISH DYNAMITE COMPANY LIMITED),

Head Office: 149, West George Street, Glasgow.

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## TONITE, OR COTTON POWDER,

IS RECOMMENDED TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, AS BEING THE SAFEST, CHEAPEST, AND STRONGEST OF ALL EXPLOSIVES

TONITE is the most efficient and economical blasting agent ever invented, and is largely in demand. It does not contain any Nitro-glycerine, and is, therefore, exempt from the dangers of exudation, or of freezing and its attendant process of thawing.

The Company manufacture

### PATENT DETONATORS

of a quality much superior to the foreign article. Also supply Safety Fuse and Electric Firing Appliances of best description. The trade supplied on favourable terms.

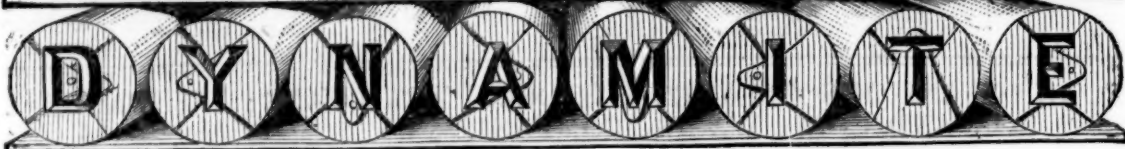
ADDRESS—THE COTTON POWDER COMPANY (LIMITED)

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WORKS: FAVERSHAM, KENT.

Agents: DINEEN and Co., Leeds; DAVID BURNS, Haltwhistle; R. J. CUNNACK, Helston, Cornwall; J. and W. SMITH, Chapel-en-le-Frith; W. VEITCH, Jedburgh, N.B. W. HARRISON, Barrow-in-Furness; W. J. PARRY, Bangor; HUNTER and FOTHERINGHAM, Glasgow.

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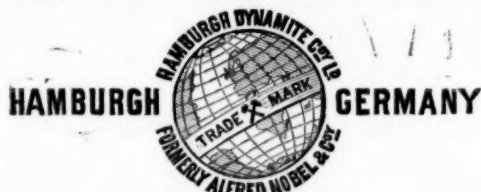
OF THE GREATEST STRENGTH ALLOWED BY THE EXPLOSIVES ACT.

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LONDON AGENT.—E. KRAFTMEIER & CO., 5, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C

## NOBEL'S DYNAMITE.



MANUFACTURED AND SOLD BY THE

## DYNAMIT-ACTIEN-GESELLSCHAFT

VORMALS ALFRED NOBEL & CO., HAMBURG.

(HAMBURG DYNAMITE COMPANY, LIMITED),

Formerly ALFRED NOBEL & CO.

LONDON OFFICE: 42, BASINGHALL STREET, E.C.

BEST PRICES AND TERMS ON APPLICATION.

## BORLAND'S PATENT INJECTOR.

SEE THE ENGINEERING PAPERS.

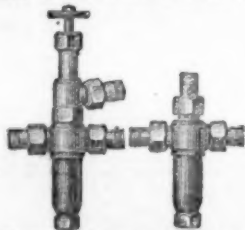
The cheapest and most economical.

Can be cleaned in a few minutes.

All parts made to gauge.

Made entirely of best gun metal.

Is the smallest and neatest.



Has no moving parts.

Will not shake off.

Has the most rapid delivery.

No joints to make.

Prompt and continuous action guaranteed.

S. BORLAND, Mansfield Chambers, St. Ann's Square, Manchester,  
(Late Manager for Sharp, Stewart and Company, Limited, Atlas Works, Manchester. Upwards of 25 years with that firm.)

Price Lists, Particulars References, &c., on Application.

For Excellence  
and Practical Success  
of Engines.



Represented by  
Model exhibited by  
this Firm.

## HARVEY AND CO.

(LIMITED),

ENGINEERS AND GENERAL MERCHANTS  
HAYLE, CORNWALL.

LONDON OFFICE.—186, GRESHAM HOUSE, E.C.

MANUFACTURERS OF  
PUMPING and other LAND ENGINES and MARINE STEAM ENGINES  
of the largest and most approved kinds in use, SUGAR MACHINERY,  
MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL.

SHIPBUILDERS IN WOOD AND IRON.

MANUFACTURERS OF  
HUSBAND'S PATENT PNEUMATIC STAMPS

SECOND-HAND MINING MACHINERY FOR SALE,  
In Good Condition, at MODERATE PRICES—viz.

PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES,  
STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of  
various sizes and descriptions; and all kinds of MATERIALS required for  
MINING PURPOSES.



## PACIFIC IRON WORKS

RANKIN, BRAYTON, AND CO.,

For Copper and Argentiferous Galena Ores.

GENERAL OFFICE AND WORKS,

San Francisco, Cal., U.S.A.

BRANCH WORKS,—CHICAGO, ILLINOIS, U.S.A.

The Pacific Water Jacket Smelters embrace many features that  
are entirely new and of great practical utility, which are secured  
by letters patent.

No other furnaces can compare with these for durability, and in  
capacity for continuous and interrupted work.

More than One Hundred

of them are now running in the various mining districts of the  
United States, giving results never before obtained as regards con-  
tinuous running, economy of fuel grade and quality of bullion  
produced.

These Smelters are shipped in a complete state, requiring no  
brick or stone work, thus saving great expense and less of  
construction.

Complete smelting plants made to order, with all the improve-  
ments that experience has proved valuable in this class of machinery.  
Skilled and experienced smelters furnished when desired to examine  
mines and to superintend constructing and running of furnaces  
Estimates given upon application. Send for circular.

We refer to A. S. CHURCH, Esq., 118, LEADENHALL STREET,  
E.C., LONDON.

THE  
BEST METAL FOR BUSHES,  
BEARINGS,  
SLIDE VALVES,

And other wearing parts of Machinery.

PUMPS, PLUNGERS,  
CYLINDERS, &c.

PHOSPHOR BRONZE

WIRE, TUBES

SHEET, RODS

TOOLS, &c.

STEAM

FITTINGS

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MANUFACTURERS

UNDER PATENTS.

THE

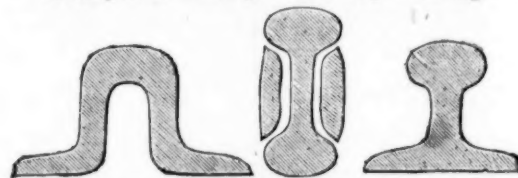
PHOSPHOR BRONZE

COMPANY, LIMITED,

SUMNER STREET, SOUTHWARK  
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## JOHN BEATSON AND SON.

40h, St. Mary's Gate, Derby.



IRON AND STEEL RAILS, of all sections, from 10 to 86 lbs. per  
yard, new perfect, new slightly defective, or second-hand, with Fish-plates,  
Bolts and Nuts, Chairs, Spikes, and Points and Crossings to match, when re-  
quired.

STEEL AND IRON WIRE ROPES, LOCOMOTIVE ENGINES, &c., &c.

BAR, PLATES, SHEETS, &c.

STEEL OF ALL KINDS. FISH IRON OF ALL KINDS

Delivered at all Railway Stations and Ports in Great Britain.

## WILLIAM BENNETTS,

PATENT MINERS'

SAFETY FUSE

MANUFACTURER.



This manufacture embraces all the latest improvements for use in  
Blasting in Mines, Quarries, or for Submarine Purposes; and is  
adapted for exploding Gunpowder, Dynamite, or any other Explosive;  
and is made suitable for exportation to any part of the world.  
Price Lists and Sample Cards on application.

All communications to be addressed—

ROSKEAR FUSE WORKS,  
CAMBORNE CORNWALL.

CALIFORNIAN AND EUROPEAN AGENCY.

509, MONTGOMERY STREET, SAN FRANCISCO, CAL.

J. JACKSON, Manager



## MINES—continued.

## NON-DIVIDEND MINES—continued

| Shares.  | Price.  | Last wk. | Clos pr.    |
|--|---------|----------|-------------|
| 5000 North Molton, * c, ms., s, Devon.....         | 3 4 0   | —        | —           |
| 5000 North Penrithral, t, c, Gwynnap.....          | 1 0 0   | 3/8      | 3/8 3/8     |
| 2338 North Treaskery, c, St. Agnes.....            | 1 0 0   | —        | —           |
| 5000 Northern, * s, Durham.....                    | 5 17 10 | —        | —           |
| 5000 Okef Tor, * t, c, Galatook.....               | 1 0 0   | —        | —           |
| 5000 Dietheria s-s, Cornwall.....                  | 1 0 0   | 9/16     | 1/16 1/16   |
| 5000 Owen Veat, t, Cornwall.....                   | 1 0 0   | 1/8      | 1 1/8       |
| 4500 Pary Corporation, * c, Angles.....            | 1 0 0   | —        | 2s. 3s.     |
| 7500 Pateley Bridge, t, Yorkshire.....             | 1 0 0   | —        | —           |
| 5000 Pedn-an-drea, t, Redruth.....                 | 4 3 0   | 3/8      | 3/8 3/8     |
| 5000 Pennant, t, bar, North Wales *.....           | 5 0 0   | 5 3/8    | 5 3/8 5 3/8 |
| 1500 Penegarg, t, Carmarthenshire.....             | 1 0 0   | —        | —           |
| 1500 Pen-r-dread, * s, Flintshire.....             | 1 0 0   | 3/4      | 3/4 3/4     |
| 1500 Perran Consols, * s, Cornwall.....            | 1 0 0   | —        | —           |
| 12000 Perran Wheal Alfred, c.....                  | 0 2 8   | —        | —           |
| 1000 Polbero, t, St. Agnes.....                    | 0 2 0   | —        | —           |
| 5000 Polrebro, t, Crownan.....                     | 0 14 6  | 2 1/8    | 2 1/8 2 1/8 |
| 5000 Polrore, t, Cornwall.....                     | 1 12 3  | 3/8      | 3/8 3/8     |
| 4000 Di Nigra, s, (als. 12000 p. 10 p.).....       | 15 0 0  | —        | —           |
| 18000 Pr. Patrick, * s, (als. 12000 p. 10 p.)..... | 1 0 0   | —        | —           |
| 12000 Prince of Wales, c, s, Calstock.....         | 1 6 0   | 3/8      | 3/8 3/8     |
| 30000 Russell United, * c, Tavistock.....          | 0 15 6  | 3/8      | 3/8 3/8     |
| 5000 Silver Hill, * Callington.....                | 1 0 0   | —        | —           |
| 5000 Sinclair, * t, M. Whitford.....               | 1 0 0   | 1 1/8    | 1 1/8 1 1/8 |
| 5000 Sordage, c, Cornwall.....                     | 1 0 0   | 3/8      | 3/8 3/8     |
| 5000 South Devon, c, St. Olovan.....               | 1 0 0   | 3/8      | 3/8 3/8     |
| 5000 South Carbis, t, c, Redruth.....              | 0 10 0  | 1 1/8    | 1 1/8 1 1/8 |
| 42000 So. Devon Unit, * c, Buckfastleigh.....      | 1 0 0   | 1 1/8    | 1 1/8 1 1/8 |
| 5000 South Dolcoath, c, t, Illogan.....            | 0 19 0  | 1 1/8    | 1 1/8 1 1/8 |
| 5000 South Kitty, t, St. Agnes.....                | 0 10 0  | 3/8      | 3/8 3/8     |
| 5000 South Penrithral, c, s, Gwynnap.....          | 3 10 8  | —        | —           |
| 30000 St. Agnes & Carnarvon, c, St. Agnes.....     | 1 0 0   | 1 1/8    | 1 1/8 1 1/8 |
| 5000 South Tolcarne, c, c, Camborne.....           | 5 11 0  | —        | —           |
| 2943 South Wheal Crofty, c, Illogan.....           | 5 19 6  | 2 1/8    | 2 1/8 2 1/8 |
| 5000 South Wheal Frances, t, Illogan.....          | 9 14 4  | 6 1/8    | 6 1/8 6 1/8 |
| 40000 Tamar, s-s, Bearslant.....                   | 1 0 0   | 1 1/8    | 1 1/8 1 1/8 |
| 110000 Tankerville Cdt. Consols, t, Salop *.....   | 1 0 0   | 3/8      | 3/8 3/8     |
| 5000 Tarnhaugh, t, Northill.....                   | 0 6 3   | 3/8      | 3/8 3/8     |
| 5000 Tregeho, t, c, Cornwall.....                  | 4 0 0   | —        | —           |
| 50000 Tregontrea and Old Polgooth Cons.....        | 1 0 0   | 3/8      | 3/8 3/8     |
| 10000 Trevaen, * t, c, Gwynnap.....                | 1 0 0   | 3/8      | 3/8 3/8     |
| 50000 Trevaen United, t, Cornwall.....             | 1 0 0   | —        | —           |
| 50000 Trevaunant, t, St. Agnes.....                | 0 5 0   | 2 1/8    | 2 1/8 2 1/8 |
| 1000 West Penrith, t, Cornwall.....                | 10 0 0  | —        | —           |
| 5000 West Penrith, t, Cornwall (share).....        | 1 2 6   | 1 1/8    | 1 1/8 1 1/8 |
| 12000 West Asheton, t, Carnarvon.....              | 0 9 3   | 3/8      | 3/8 3/8     |
| 12000 West Caradon, c, St. Cleer.....              | 0 9 3   | 3/8      | 3/8 3/8     |
| 30000 West Cornwall, t, Cornwall.....              | 1 0 0   | 1 1/8    | 1 1/8 1 1/8 |
| 3000 W. Craven Moor, t, Pateley Bridge *.....      | 10 0 0  | —        | —           |
| 12000 West Crebor, c, Tavistock.....               | 0 11 6  | 6s.      | 4s. 6s.     |
| 10240 West Devon Cornwall, c, t, Breage.....       | 1 2 0   | 3/8      | 3/8 3/8     |
| 12000 West Godolphin, t, c, Breage.....            | 3 6 0   | 1 1/8    | 1 1/8 1 1/8 |
| 12000 West Gouman, c, St. Cleer.....               | 1 0 0   | 3/8      | 3/8 3/8     |
| 20000 West Lisburne, t, Cardigan.....              | 1 0 0   | 3/8      | 3/8 3/8     |
| 3000 West Mary Ann, t, Menheniot.....              | 1 13 0  | —        | —           |
| 30000 Westminster Consols, * t, Flintshire.....    | 1 0 0   | 1 1/8    | 1 1/8 1 1/8 |
| 20000 West Penrith, t, Cornwall.....               | 1 0 0   | —        | —           |
| 12000 W. Phoenix, t, Llanfyllter.....              | 1 5 0   | 3/8      | 3/8 3/8     |
| 5000 West Polbrean, t, c, St. Agnes.....           | 8 15 0  | 3 1/8    | 3 1/8 3 1/8 |
| 5190 West Poldean, St. Day.....                    | 7 5 6   | —        | —           |
| 2048 West Wheal Frances, t, Illogan.....           | 33 13 3 | 8 7/8    | 7 1/8 7 1/8 |
| 3000 West Wheal Peavor, t, Redruth.....            | 4 0 6   | 3/8      | 3/8 3/8     |
| 5000 West Wheal Seton, c, Camborne.....            | 17 0 0  | 1 1/8    | 1 1/8 1 1/8 |
| 5000 Wheal Agate, t, Illogan.....                  | 8 15 0  | 1 1/8    | 1 1/8 1 1/8 |
| 5000 Wheal Bassett, t, Illogan.....                | 8 15 0  | 3 1/8    | 3 1/8 3 1/8 |
| 5000 Wheal Benny, * c, t, Latchell.....            | 1 3 6   | —        | —           |
| 3000 Wheal Boys, t, Redruth.....                   | 1 3 6   | —        | —           |
| 5000 Wheal Castle, * c, St. Just.....              | 1 0 0   | —        | —           |
| 12000 Wheal Consols, c, St. Agnes.....             | 0 10 6  | 3/8      | 3/8 3/8     |
| 2585 W. Penrith, No. Treas., t, c, Gwynnap.....    | 2 2 0   | 1 1/8    | 1 1/8 1 1/8 |
| 5000 Wheal Britannia, t, Cornwall.....             | 1 0 0   | 3/8      | 3/8 3/8     |
| 5000 Wheal Ellobath, t, Cornwall.....              | 1 0 0   | —        | —           |
| 12288 Wheal Jane, t, Kea.....                      | 3 1 6   | 3/8      | 3/8 3/8     |
| 12000 Wheal Jewell, c, St. Hilary.....             | 1 0 6   | 3/8      | 3/8         |

Limited Liability Companies; † quoted on the Stock Exchange.  
I have paid dividends.

4 Have made calls since last dividend was paid.

Limited Liability Companies; † quoted on the Stock Exchange.  
I have paid dividends.

## GAS COMPANIES.

| Issue, Shares. |  | Pd.   | Cos. Cl.  |
|----------------|--|-------|-----------|
| 5000..         | 20..Bahia [L] .....                    | all.. | 22 20     |
| 510000..       | 5..Bombay [L] .....                    | all.. | 6 53      |
| 10000..        | 5..Bristol, New [L] .....              | 4     | 4 46      |
| 29700..Stk     | 20..British Consolidated .....         | 100.. | 193 198   |
| 14000..        | 20..British .....                      | 100.. | 40 32     |
| 50000..Stk     | 20..Commercial .....                   | 100.. | 23 23     |
| 20000..        | 20..Continental Union [L] .....        | 100.. | 23 23     |
| 40000..        | 20..Do. do, New, 1869, 1872 .....      | 14    | 23 24     |
| 10000..        | 20..Do. do, 7 per ct. Preference ..... | all.. | 28 29     |
| 20000..        | 10..European [L] .....                 | all.. | 19 20     |
| 94850..Stk     | 4..Gairist and Coke, A. Ord. .....     | 100.. | 204 108   |
| 244200..Stk    | 20..Globe Block .....                  | 100.. | 104 106   |
| 5000..         | 10..Hong Kong and China .....          | all.. | 188 190   |
| 2300000..Stk   | 10..Imperial Continental .....         | 100.. | 188 190   |
| 12000..        | 5..Malta & Mediterranean [L] .....     | al..  | 2 4 3     |
| 100000..       | Metrop. of Melbourne 6 p.c. Deb. ..    |       |           |
| 45000..        | 20..Monte Video [L] .....              | all.. | 15 4 16 3 |
| 30000..        | 5..Ottoman [L] .....                   | all.. | 4 4 4 4   |
| 30000..        | 5..Panama .....                        | all.. | 7 4 8     |
| 27500..        | 20..Rio de Janeiro .....               | all.. | 19 20     |

### TRAMWAYS.

| Issue, Shares. |    | TRAMWAYS.                                 | Pd. Clos. pr. |
|----------------|----|---|---------------|
| 40000          | 5  | Anglo-Argentine [L] .....                 | all 83 6      |
| 10000          | 10 | Barcelona [L] .....                       | all 85 9      |
| 7140           | 10 | Belfast Street Tramways .....             | all 82 8      |
| 3050           | 10 | Birkenhead, Ordinary .....                | all 1 2       |
| 3600           | 10 | Ditto, 6 per cent. Preference .....       | all 4 5       |
| 9280           | 10 | Bristol [L] .....                         | all 94 7      |
| 2000           | 5  | Broad Street Trolleys & Omnibus [L] ..... | all 8 0       |
| 20500          | 10 | Calcutta [L] .....                        | all 10 11     |
| 3200           | 10 | Chester [L] .....                         | all 10 11     |
| 24000          | 10 | Dublin .....                              | all 7 5 8     |
| 14900          | 10 | Edinburgh Street Tramways .....           | all 9 10      |
| 35000          | 10 | Glasgow Tramway & Omni. [L] .....         | 9 16 17       |
| 10000          | 10 | Hughes-Lock, and Tram. works, all .....   | 8 8 9         |
| 7500           | 10 | Imperial [L] .....                        | 8 9 9         |
| 34000          | 10 | Liverpool Unit. Tram & Om. [L] .....      | all 10 11     |
| 25000          | 10 | London [L] .....                          | all 14 15 15  |
| 15000          | 10 | London Street Tramways .....              | all 16 17 17  |
| 60000          | 10 | North Metropolitan .....                  | all 17 18     |
| 8000           | 10 | Nottingham and District [L] .....         | all 73 8 9    |
| 18470          | 10 | Provinc. [L] .....                        | all 84 6      |
| 6000           | 10 | Sheffield .....                           | all 74 4      |
| 5000           | 10 | Southampton .....                         | all 4 5 5     |
| 8000           | 10 | Sunderland [L] .....                      | all 3 6 4     |
| 10000          | 10 | Do. .....                                 | all .....     |
| 12000          | 10 | Tramways of France [L] .....              | all 2 3       |
| 16500          | 10 | Tramways of Germany [L] .....             | all 11 11 5 6 |

## BANKS

|       |       |                             |     |     |       |
|-------|-------|-----------------------------|-----|-----|-------|
| 40000 | .. 5  | ... Tramway Union (L) ..... | all | ... | 3 3/4 |
| 25000 | .. 5  | ... Vale of Clyde .....     | all | ... | 6     |
| 72000 | .. 10 | ... Wolverhampton (L) ..... | all | ... | 3 1/4 |

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## TELEGRAPH COMPANIES.

| <i>Shares.</i>                       | <i>Pd.</i> | <i>Clos. pr.</i> |
|--------------------------------------|------------|------------------|
| Stk. Anglo-American .....            | 10 0       | 37 1/2 18 5/8    |
| 10 Australian Submarine .....        | 10 0       | 9 1/2 10 1/2     |
| 10 Cuba .....                        | 10 0       | 10 1/2 11 1/2    |
| 10 Direct Spanish .....              | 9 0        | 4 1/2 5          |
| 25 Direct United States Cable ...    | 20 0       | 9 1/2 10 1/2     |
| 10 Eastern .....                     | 10 0       | 10 1/2 11        |
| 10 East. Extension, Suez, & China .. | 10 0       | 11 1/2 11 1/2    |
| 10 German Union .....                | 10 0       | 10 1/2 10 1/2    |
| 10 Great Northern of Copenhagen ...  | 10 0       | 12 1/2 13 1/2    |
| 25 Indo-European .....               | 25 0       | 31 32            |
| 10 London Platino Brazilian .....    | 10 0       | 3 1/4 4          |

LONDON: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors); at their office, 25, FLEET STREET, B.C., where all communications are requested to be addressed.—February 9, 1881.

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